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POLLUTION OF THE INTERSTATE AND INTRASTATE WATERS OF THE UPPER MISSISSIPPI RIVER AND ITS TRIBUTARIES - MINNESOTA AND WISCONSIN. PROCEEDINGS OF CONFERENCE, SECOND SESSION, HELD AT MINNEAPOLIS, MINNESOTA ON FEBRUARY 28, MARCH 1 AND 20, 1967. VOLUME 2

Federal Water Pollution Control Administration
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PROCEEDINGS

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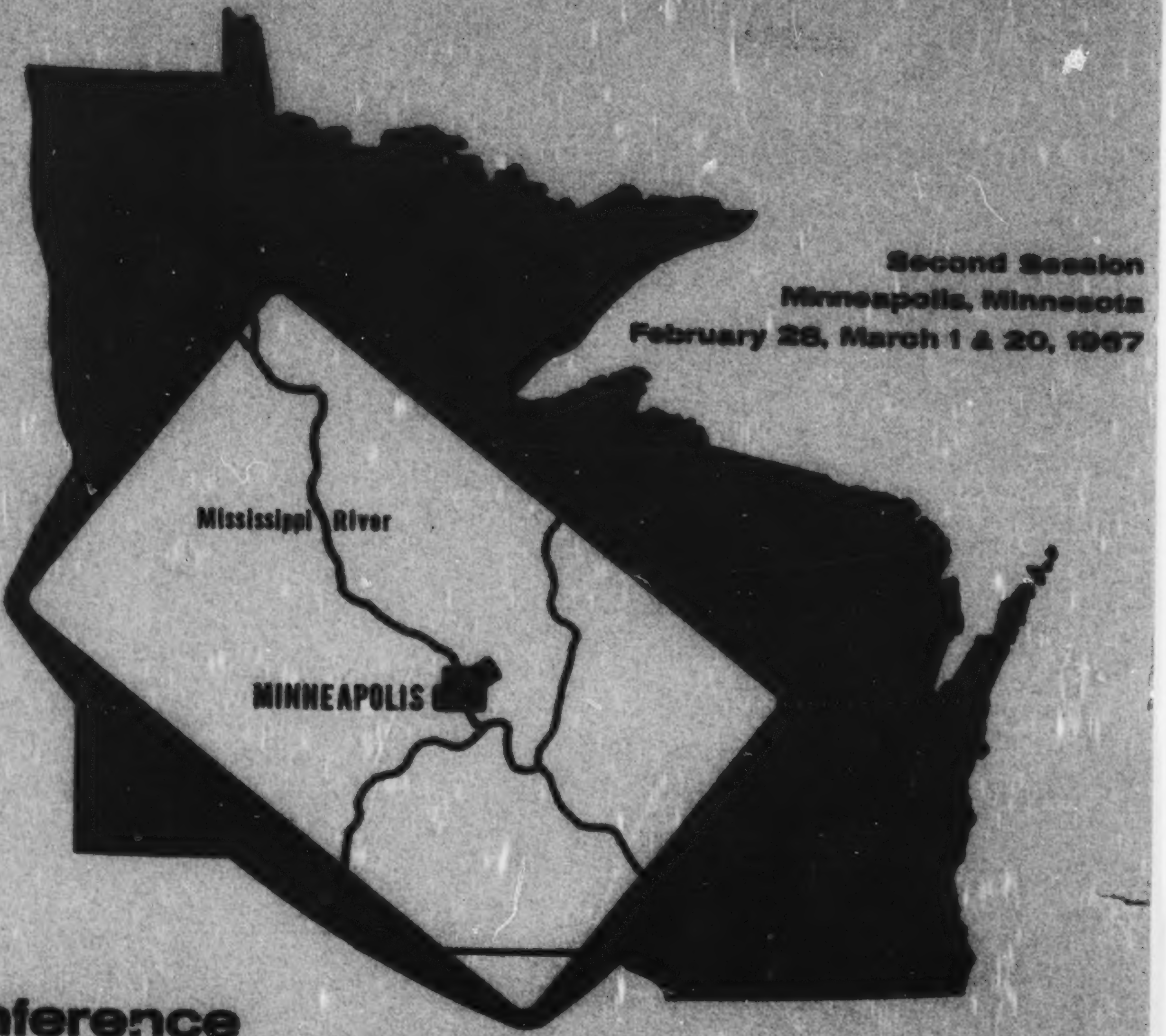

Second Session
Minneapolis, Minnesota
February 28, March 1 & 20, 1967

Conference

In the Matter of Pollution of the Interstate and Intrastate Waters of the Upper Mississippi River and its Tributaries - Minnesota and Wisconsin

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Second Session of the Conference in the Matter of Pollution of the Interstate and Intrastate Waters of the Upper Mississippi River and Its Tributaries in the States of Wisconsin and Minnesota, convened at 9:00 a.m., on Wednesday, March 1, 1967, at the Leamington Hotel, Minneapolis, Minnesota.

PRESIDING:

Mr. Murray Stein, Assistant Commissioner for Enforcement, Federal Water Pollution Control Administration, Department of the Interior.

PROCEEDINGS

MR. STEIN: May we reconvene?

I would like to welcome all you people back. Minnesota will continue.

I hope you all enjoyed yesterday. I do think, though it may not have been apparent, that we are getting closer and closer together all the time with the conferees.

This is just the American process, I guess, of arriving at conclusions. Sometimes it gets abrasive, but that is the way we have always been, and if people didn't have firm positions and didn't put them forward in that way, I don't think we would make much progress.

With that, we will call on Minnesota again to continue its presentation.

Mr. Smith?

CONTINUED STATEMENT OF LYLE H. SMITH,
CONFEREE AND EXECUTIVE ENGINEER, MINNESOTA
WATER POLLUTION CONTROL COMMISSION

MR. SMITH: Mr. Chairman, Conferees and Ladies and Gentlemen:

L. H. Smith

I will go into a review of the Federal recommendations, and these comments will follow the order of the recommendations, if you care to refer to the summary, commencing at the top of Page 27.

Under the General Recommendations, Protection of Existing Water Quality:

The Commission agrees that there should be no decrease in water quality. However, we would like to add, "which could be detrimental to beneficial uses." Further comments will be made later in my statement.

We feel that there was some discussion of this yesterday and we feel that this should be clarified.

Under the paragraph of "Enhancement of Water Quality," the Commission agrees that where water quality has been unreasonably degraded by pollution, such water quality should be enhanced to avoid interference with beneficial uses. The uses given are essentially the same as specified in some of the classifications already adopted by the Commission, although there is some change in the area.

In regard to the protection of water quality in areas which are essentially in their natural condition, and using as an example the dissolved oxygen levels set forth in the table on Page 26 of the Summary, we believe that it would be unreasonable to flatly prohibit any decrease of quality from present levels. In the final analysis, this constitutes a zoning provision for all of the waters presently of good quality and could prohibit any new municipal or industrial effluents unless treated, so as to be virtually equal to existing river water quality. We believe it would be more desirable to use only a specific figure for the dissolved oxygen and other characteristics which should be maintained at non-pollutional levels, or to change the phrase to read, "no unreasonable deterioration." The Commission does not object to the use of standards which include a prohibition on discharges where warranted by circumstances, but we do not agree that it is appropriate to apply such standards arbitrarily and indiscriminately to a stream resource, such as dissolved oxygen, where it apparently has no rational basis and will only prevent future development of the area without regard to needed economic growth of the State.

We feel some clarification also is necessary concerning the river flows upon which the oxygen levels are based since the report recommends changing both from the levels specified in the standards already adopted by the Commission for certain reaches of these rivers. From our evaluation, it appears that the Federal standards will not enhance the quality of the reaches now affected by pollution, but will in fact permit more degradation than is now allowed by the existing State standards. We do not have the staff or access to the use of computers to confirm this in detail, taking into account all possible variables, but it seems quite certain that, for example, under the proposed Federal dissolved oxygen recommendations of 3 mg/1 to be maintained in the river below the Twin Cities at the 7-consecutive-day, once-in-10-year low flow, more pounds of BOD could be discharged to the river than under the existing State standard, which requires 1 mg/1 to be maintained at the much lower minimum daily flow occurring once in 20 years. We believe the relaxation of the flow interval will more than offset the apparently more stringent dissolved oxygen concentration. We would appreciate having this matter resolved by the technical staff of the Federal Water Pollution Control Administration for the enlightenment of the conferees. If this cannot be done today, we request that the matter of the dissolved oxygen standards be left open until it can be resolved to the satisfaction of those concerned.

The coliform standards recommended in the Federal report are endorsed in full. They are virtually identical with the standards the Commission has proposed for inclusion in its Statewide water quality criteria.

The next paragraph is under "Treatment of Municipal Wastes. This was discussed in some detail yesterday.

L. H. Smith

This recommendation requires that all municipalities and other institutions which discharge sewage to these waters provide at least secondary biological treatment and continuous disinfection of the effluent. As a matter of record, this has been the policy of the Commission for these waters for many years and with very few exceptions such treatment works have already been provided. We concur fully with this recommendation, except for the manner in which secondary treatment is defined. We believe the recommendation should not specify the percentage of treatment to be provided for BOD and suspended solids reduction, but should instead specify allowable effluent concentrations.

This matter is part of the very foundation of Minnesota's water pollution control program, and this Federal recommendation is a prime example of the lack of consideration given to working with and supporting the policies of the State agencies in these matters.

We must take very strong exception to this part of the recommendation, and the related one regarding treatment of industrial wastes where the principle of equal percentage of treatment also is applied rather than the equal effluent principle. The Federal Water Pollution Control Administration has been fully aware of the position of the Commission on this matter for some time, because of the similar controversy which arose at the Red River of the North conference in September 1965.

The definition set forth in this general recommendation has no bearing directly on protection of water uses or quality, but instead it would establish a policy regarding the allocation of BOD discharges between various sources. As such, it should have no place in these recommendations, since it is not within the province of the Federal agency to allocate the assimilation capacity of these streams among the various pollutional sources. Promulgation of this policy was also suggested previously by the Administration on the Red River of the North, although in a different guise, but after much argument the matter was finally resolved in the Commission's favor. Resource allocations of this type are a State responsibility and this recommendation is directly contrary to the established policy of the Commission, which is to require all pollutional sources in a designated reach of river to produce effluents of equal concentration. The policy is of long standing and is based on an opinion of the Attorney General which was requested by the State Board of Health shortly after the Minneapolis-St. Paul Sanitary District was originally established in the 1930's by the State Legislature. This very point of equal effluents versus percentage removal was then at issue. Since being resolved in favor of equal effluents, this approach has always been incorporated in the programs and policies of the State pollution control agency, first by the State Board of Health and later by the Water Pollution Control Commission.

It is the contention of the Commission that such a specific policy statement should be deleted and replaced with a general statement to the effect that the allocation of the assimilative capacity of the streams shall be done by the States within the context of their established laws and policies, and/or changed to a definition of secondary treatment based only on effluent concentration. On the basis of its own experience, covering more than twenty years in dealing with pollution problems in Minnesota, the Commission believes the equal effluent principle to be just and simple of application, and would not support any change in this policy.

We reiterate that we have no disagreement with the stated allowable pounds of BOD which may be discharged to the river from the aggregate of all of the sources, which is the essential consideration as far as effect on water quality is concerned. Our disagreement is with the proposed allocation. The latter lies solely within the jurisdiction and responsibility of the Commission and should, therefore, be handled in accord with its policies.

The next paragraph deals with Reports on Municipal Treatment Plants.

We are in accord with this recommendation. A similar requirement is normally incorporated as a part of standards adopted by the Commission.

MR. STEIN: Mr. Smith, this is a technical operation.

For the purpose of the record, I think it may be clearer for people who read this, that if we are going to have comment, to have some short comment here.

I think with reference to your first point on the dissolved oxygen, this is the kind of technical operation that we may have to turn over to a technical group to work out.

I do not think there is any difference in what we want to achieve here, and I think the challenge is to get a formula that we can all agree with.

I think your points are well taken. I don't think the Federal Government would want to take any view on this without also getting the advice of the technical people from Wisconsin, and, of course, we will, as we may have to here, get some very specialized experts to work with you on this information and get these worked out.

I just want to flag that at this point in the record, to say that that point is well taken and we can look at that.

L. H. Smith

With reference to the next point you make on the allocations within Minnesota, I would agree that this is a State matter. However, the problem that we are faced with here in the enforcement stage, or in the standard operation, is that there has to be a pretty full disclosure of what the State is going to do for the allocation.

This is again a problem we have, where everyone is providing treatment. I think Detroit would probably be the best example to get away from here for the moment.

When we went out to Detroit, we found the river pretty badly polluted. Then we went around to each industry and city, and they all said they were providing fine treatment. The question was, who was polluting the stream? Well, we had to go through industry by industry, and, of course, you get the major automobile companies there, for example, and one of the big four was doing fine, but the other ones we thought were pretty bad and they had to be corrected.

I think we are going to wind up the same way here. If we are going to protect the stream and we are going to find out who is not going to do the job, the allocation must be something, and I think once the State gives you that, this could be adopted by the Federal Government, because the Federal Government has the obligation, as I read our law, if there is a violation after June 30th, to proceed against an individual polluter.

Unless we know what the allocation is, this would make it not very equitable, and unless the State gives us this allocation, we are going to be faced with the position of having to do this ourselves.

Now, I think in the Red River of the North we could work this out, and arrive, just as we arrived here, at loadings which could go into the river, and the State and we agree on the loadings.

Then we came up with allocations for the Minnesota industries and municipalities. I don't know whether they liked it or didn't like it, but they thought it was their prerogative to establish, and we said fine. They came up with those. As far as I know, this is satisfactory.

Again, this is a fundamental issue, but I think we are going to have to have those rather shortly, Mr. Smith.

MR. SMITH: Well, we would be glad to work this out with you in executive session.

MR. STEIN: Right.

MR. SMITH: I am sure we can.

MR. STEIN: Right.

MR. SMITH: May I go on?

MR. STEIN: Yes.

MR. SMITH: Paragraph 5 on Phosphate Removal:

L. H. Smith

The Commission agrees that all practicable design and operation methods should be used to remove phosphorus from the sewage and waste effluents.

No. 6, Monitoring of Water Quality.

We are in accord with this recommendation. The Commission has had for many years a Statewide Water Quality Sampling Program and has cooperated in the installation and operation of several of the Water Pollution Surveillance System stations in Minnesota. We shall be pleased to cooperate within the limits of our resources in expanding our monitoring program in this area.

No. 7, Bypassing and Spilling of Wastes.

We are in agreement with this recommendation and are confident that the current program of the Minneapolis-St. Paul Sanitary District will substantially reduce this problem in this area.

No. 8, Pretreatment of Wastes.

We are in agreement with this recommendation insofar as it is necessary to avoid interference with treatment works or effluent quality control.

No. 9, Protection Against Spillage.

The agreement of the Water Pollution Control Commission is exemplified by the adoption of Regulation WPC-4 relating to storage of oil and other liquid substances capable of polluting waters of the State, which to our knowledge when adopted was probably one of the first of its kind in the Nation. For the conferees' information, a copy of this regulation is presented as Exhibit 1.

Paragraph 10, Combination Storm and Sanitary Sewers.

The Commission is in accord with this recommendation and calls attention to the point that it does not ordinarily approve plans for combined sewers or extensions of combined sewers. The recommendation for expansion of the studies by the Minneapolis-St. Paul Sanitary District and initiation of studies by South St. Paul is welcomed. Similar recommendations were made at the time of the public hearings which were held by the Commission in 1962 prior to adopting standards for these waters.

I am sure the cities of Minneapolis and St. Paul have statements which will indicate what progress they have made in the separation of sewers.

Paragraph 11, Treatment of Industrial Wastes.

The Commission again here takes the same stand that it had taken --

MR. STEIN: Mr. Smith, I want a point of clarification.

What do you mean you don't ordinarily approve plans for combined sewers? Do you do this in extraordinary circumstances?

MR. SMITH: There may be an exception where, for a short period of time, a larger sewer may be used for both purposes, which may later be used for sort of more sanitary -- this is very short.

MR. STEIN: This is just temporary?

MR. SMITH: That's all.

MR. STEIN: All right. Thank you.

MR. SMITH: Paragraph 11, Treatment of Industrial Wastes.

The Commission does not agree with the use of percentage as a definition of treatment. The same comments made concerning treatment of municipal wastes apply in general also to this recommendation. It is further pointed out that basin industrial waste treatment on the raw waste means that the base must be individually determined in each case, and, further, will encourage industry to raise the raw waste strength as high as possible in order to permit a high effluent concentration.

Consideration should be given to eliminating the coliform requirements for industrial wastes which are free of sanitary sewage, unless the presence of pathogenic organisms can be demonstrated.

I believe there was a discussion yesterday, and this was to be clarified.

Paragraph No. 12, Reporting of Industrial Wastes.

The comments made concerning reports by municipal waste treatment plants apply to this recommendation also. Such reporting is already being done by most of the major plants.

MR. STEIN: Again, Mr. Smith, I think in the interests of saving time, we need some clarification.

On the question of chlorination of industrial effluents, I think the recommendation was clear. Did you come to an agreement in the Red River of the North on that issue?

MR. SMITH: I don't recall that we did.

MR. STEIN: Are you going to chlorinate the effluent?

I think Mr. Geldreich is here and he has seen that paper.

Now, basically, this is a fundamental issue that is going to have to be considered by both States. It is covered in the recommendation here. I don't want to go into a long discussion, but I think you have raised this issue and we have to consider this in the light of the industry representatives who are here, and we may as well look at this.

In the effluent from industrial plants, and we found these particularly in potato wastes, pulp and paper wastes and sugar beet wastes, there is a significant amount, according to our bacteriologists, of pathogenic organisms, even though sewage is not connected with it. That indicates that these waste sources have to be disinfected before they are discharged into the stream.

Now, I think if you want to do this, and this is a technical point, we have Mr. Geldreich, the bacteriologist, here.

This is a concept which is relatively new in waste treatment and hasn't been paid too much attention to before. The question was, why chlorinate and disinfect an effluent from a plant processing organic material if it didn't come into contact with sewage or domestic wastes of some kind?

Our scientists indicate that there are enough disease-bearing organisms and they indicate that this should be the procedure.

I think the conferees will have to deal with that. If we need any further clarification before the conference is finished, or before we are completed today, or whenever you wish, or if the conferees want to ask Mr. Geldreich questions on this as to the basis for the conclusions of our technical staff, we remain ready; but this will be a very key question, it seems to me, that has to be resolved.

Thank you.

MR. SMITH: No. 13, Vessel Wastes.

The Commission agrees that this recommendation is proper and presents as Exhibits 2, 3 and 4 copies of Minnesota Statutes, Section 361.29, as amended, and related criteria for the acceptability of marine sewage treatment devices, and list of currently accepted devices.

The Commission has been a leader in this field for many years, as you are no doubt aware. Based on our experience, however, we do not believe it is realistic to expect a State to exert control over watercraft not licensed in that State, particularly in the continuing absence of any Federal guidelines to promote uniformity among the States. It is recommended that control over foreign shipping, and Federally registered or documented craft preferably be exercised by the responsible Federal agencies rather than the States.

No. 14, Garbage and Refuse Dumps.

The Commission agrees in substance and offers as Exhibit 5 a staff memorandum on water pollution control practices relating to dumps, deposits and stockpiles dated December 16, 1965. Solid wastes are also normally controlled by standards adopted by the Commission. The question is raised, however, as to whether there may not be more reasonable alternatives than removal of the contents of existing dumps.

I am not sure whether this refers to dumps right on the river bank where material can very easily be carried in, or whether they are referring to dumps in the flood plain.

No. 15, Upstream Bacterial Control.

The Commission agrees with the recommendation insofar as it relates to control of bacteria originating from sewage or other disease-producing effluents. The Commission's policy is that tributary waters and sources thereon be controlled as necessary so that there will be no violation of the standards of classified waters in any respect by reason of such tributary discharges.

I would like to refer next to the specific recommendations. These are contained, starting on Page 30.

Municipal Sources

Minneapolis-St. Paul Sanitary District to South St. Paul -- Maximum BOD and Suspended Solids Loadings.

The BOD loading of 68,500 pounds used in this recommendation is based on river assimilation analysis and intended to maintain the 3 mg/l dissolved oxygen specified earlier. As discussed previously, we feel that our existing design standards of 1 mg/1 of dissolved oxygen at a lower base river flow would provide better water quality conditions at the river flows used by the Administration than these standards would.

The derivation of the 85,000 pounds of suspended solids is unclear, but possibly was calculated on the same base as removal of BOD by 80 percent secondary treatment, thus resulting in an effluent concentration of 50 mg/1. This seems rather high for a modern secondary sewage plant effluent. The Commission has in the past used the figure of 30 mg/1 as being reasonably attainable by a well designed and operated secondary treatment plant.

No. 2, which is on the top of Page 31, Maximum Phenolic Loadings.

It is believed that with the extensive treatment works already provided or under construction by most of these sources there will be no serious difficulty in producing the desired effluent quality, but we do question the justification for changing the stream standard for this reach from the existing 0.1 to 0.01 mg/1.

No. 3, By-passing at Minneapolis-St. Paul Sanitary District.

We concur with this recommendation and as stated previously are hopeful that recent construction will substantially reduce this problem.

MR. POSTON: Mr. Smith?

MR. SMITH: Yes, sir.

MR. POSTON: I note that you object to our use of 50 milligrams per liter, but you say that the Commission has in the past used a figure of 30 milligrams as being reasonably attainable by a well designed and operated secondary plant.

MR. SMITH: This is true.

MR. POSTON: Under your item earlier in the report, you called attention to the fact that Hastings and -- was it Lake City?

MR. SMITH: That's right.

MR. POSTON: -- have new plants, which will produce an effluent with 50. These are not yet under completion?

MR. SMITH: These are not completed. This is right. These were gotten before the classification and the standards. These are not in the classified section of the river, and there may have to be steps taken to improve this.

MR. POSTON: You may what?

MR. SMITH: There may have to be steps taken to improve this.

MR. POSTON: All right. Thank you.

MR. SMITH: The next paragraph is relative to the

Hastings Plant.

Here again, the efficiency of the plant as determined by the Project staff was certainly well below design levels and possibly was not representative of usual conditions. The reasons for the poor showing, beyond simple volumetric overloading, are not given, but we believe the efficiency can probably be increased in the interim before the planned secondary treatment works are completed. In view of the existing volumetric overloading, however, it is doubtful that the indicated 30 percent efficiency can be attained.

There are still some industrial wastes going into this primary treatment plant, and we feel whether we can actually reach the 30 percent may be a question.

Under Industrial Sources, Water Treatment Plants of the City of Minneapolis:

We would like to know the basis for the 50 mg/1 concentration of suspended solids, as mentioned previously. We are not aware of any other comparable sources of effluent on this reach, but if it is based on comparison with the capability of a modern secondary sewage treatment plant, it might more properly be 30 mg/1, rather than 50.

Under Swift and Company, Armour and Company, and South St. Paul Union Stockyards:

We do not object to this recommendation per se, but would like to point out that several of these outfalls are submerged and may be very difficult to monitor and would also call attention again to our previous comments concerning coliforms in industrial effluents.

MR. STEIN: You certainly don't mean that when you are talking about coliforms. I can understand this from sugar beets, that there might be a question, or from pulp and paper mills, from potato plants. This is new and this is what Mr. Geldreich referred to where he thought we should disinfect this, but I never heard anyone ever come up with the notion that we treat wastes from packing house plants of warm-blooded animals different than the manner in which we treat wastes from humans.

MR. SMITH: This is not implied, but there are many sewers and some of these sewers may not contain pathogenic organisms.

MR. STEIN: That may be, but the operation is with Swift and Company, Armour and Company, and South St. Paul Union Stockyards.

MR. SMITH: This is right, and wherever pathogenic organisms are demonstrated there will be no question, but we feel there are some of these where they may not be.

MR. STEIN: All right.

MR. SMITH: Northwest Cooperative Mills (now

Cenex Inc.).

The comments made before regarding suspended solids apply here also.

Foot Tanning Company.

This plant does not discharge to the Mississippi River nor affect the Mississippi River, and should therefore not be included. However, further treatment is necessary and studies to that end are progressing. It is not clear to us what is meant by "in conformity with recommendations in this report." A primary clarifier to replace the existing settling ponds has been recommended, but to our knowledge plans have not been prepared, presumably because questions concerning further treatment have not yet been resolved.

Mayor Jelatis is here and could enlighten us on this, if you would care for him to do so.

Specific Recommendations for the Minnesota River.

Green Giant Company.

The Commission is in agreement, but would recommend that all sanitary sewage be diverted into the municipal system for treatment.

American Crystal Sugar Company and Rahr Malting Company.

The BOD loadings were based on river assimilation studies and we have no disagreement with the permissible pounds of BOD. The policy of the Commission is to permit no discharge under ice cover of waste exceeding the common level for all sources in this reach. The sugar company has already constructed a closed system for process wastes and segregated the cooling water. When operating as designed, this system should drastically reduce the BOD discharge. These facilities were in operation this winter, but some improvements may yet be necessary to attain full efficiency.

MR. STEIN: At this point, I would like to take this opportunity to say that if this is done the American Crystal Sugar Company will be showing the way, and this has been one of the great improvements we have had through the country in waste treatment methods dealing with sugar beet wastes.

To give you a notion, it wasn't ten years ago before we were striving to get down to 12 pounds of BOD per ton of beets, and then we finally got it down to 8. Then, when we found that that was too high, we tried to get these mills to go down to 2. They said that was impossible.

Then they recently have come up with this closed circuit operation, and we feel that the loading may get down to a half a pound per ton of beets.

I think the American Crystal Sugar Company should be commended for going ahead with this and showing the way as one of the plants that is going to do this job. We hope that this process will be incorporated in almost all the sugar beet plants in the country, and it is really gratifying to see that the company in this area has been one of the first to install that in this country.

MR. SMITH: Northern States Power Company, Black-dog Plant.

The derivation of the 90°F limit at 1,500 cfs river flow is not known, but it appears to us that the 93°F limit at the much lower flow specified in our standards would provide ample and probably better control of heat releases. The question is, does the recommendation mean that 13.5×10^9 BTU/day is permissible for discharge to the river at all flows less than 1,500 cfs? We would also appreciate receiving the comments of the Administration staff as to what in their opinion would constitute a reasonable mixing zone for purposes of monitoring the 90°F limit recommended for the river.

These are all of the comments that we have for this particular section.

We would like to comment on the implementation and enforcement of the final conference recommendations as they are shaped.

Following is a brief statement of what this study appears to mean to us and how we propose to proceed to carry out the recommendations.

On all those matters upon which there is substantial agreement, the Commission will proceed immediately within its available resources and authority, without awaiting the formal recommendations. For example, some enlargement of our stream monitoring program can probably be undertaken without delay, although for the long term more money and staff will have to be provided by the Legislature. Also, a concerted effort will be made to review the situation with each of the pollutional sources involved and attempt to persuade them to comply promptly with the stated objectives on a voluntary basis and with a minimum of legal action.

As is well known, some of the waters have already been classified and have had standards established, and permits have been issued for many of the sources. In some of these cases voluntary action may be forthcoming; if not, legal action will be authorized where applicable for violation and/or permit requirements. Stipulations will be sought from the various sources wherever these can serve the purpose of obtaining compliance and avoiding further legal proceedings.

In order to comply with Minnesota laws, however, and to assure a sound basis for possible revocation of permits and/or issuance of orders upon any recalcitrant sources, it will be necessary for us to amend our existing classifications and standards for these waters, and also adopt classifications and standards for the presently unclassified waters. This we will promptly proceed to do, based on the Project studies, the Commission's files and conference recommendations. We strongly urge, therefore, that the conference summary and recommendations be drafted, accepted by the conferees, and issued by the Secretary as soon as possible.

The necessity for modifying the existing standards arises because conference recommendations, if similar to the Administration report recommendations, will include some items not now included in our standards, and involve some changes in other items and different geographic limits for some classifications.

The conference study area includes substantial reaches of waters not previously classified by the Commission. We propose to use the data presented by the Administration to supplement the Commission's information for the base upon which to adopt classifications and standards. This, as with revisions of the existing standards, will require holding of public hearings on the part of the Commission. Early conference recommendations are essential in order to reduce the lead time for the hearings, upon which will depend the scheduling of projects where permit revocations or orders are required. The Commission plans to proceed simultaneously with the establishment of new or revised standards and the issuance of necessary orders on all sources, including completion target dates, thus eliminating the holding of separate hearings for orders or permit revocations as would otherwise be required by State law.

Holding hearings of this type, evaluating the often conflicting evidence obtained, and preparing the subsequent legal documentation is, under existing Minnesota laws, a very complex and time-consuming procedure which may require as much as six to nine months for completion. The procedure cannot be started until the conference summary and recommendations are received. This being the case, it is recommended that the first three phases of scheduling for construction projects (i.e., a, b and c, as given in Paragraph 1 on Page 34 of the Summary Report) not be included in the final recommendations of the conferees. There is no objection to the overall target completion date of three years from the receipt of the summary, but, in view of the necessary lead time mentioned and the uncertainty accompanying the preliminary stages of many projects, it is believed that it would be much better not to fix specific deadlines for these stages. It is suggested that an annual or semi-annual reporting requirement be inserted instead, so that all of the agencies concerned will be kept informed of progress. By this method, lagging projects will be readily apparent to all, and possible embarrassment relating to unrealistic assessment of the time needed for, or unforeseen delays in, preliminary stages will be avoided. This has been the procedure used by the Commission and our experience demonstrates that it is a more realistic approach when dealing with projects of many different sizes and kinds and in all stages of planning.

MR. STEIN: Mr. Smith, I wonder if I may interrupt you there.

I know this is going to take some discussion, but let me throw something out to you.

I think we intended with reference to the interim dates to have semi-annual progress meetings. Now, here is the problem that we have come into, and I think this is an agreement that we have made with most of the States. As a matter of fact, I am pretty sure even with Wisconsin, when we have had other cases, we didn't have any trouble.

This is the philosophy of setting up these interim dates. We feel that this helps us all, because even if you go to a progress meeting, how do you know if a project is lagging, or how would the people know if a project is lagging unless it is immediately apparent to all?

Now, if there is a good explanation for a project falling behind, I don't know that it need present any embarrassment. I would like the Minnesota people to see if we could not arrive at some kind of an arrangement where we could set up these interim dates on this kind of thing.

For example, in the Lake Erie case, we arrived at this notion. We had received interim dates from Michigan that had their program started for one reason or another a little before, but the other five States didn't quite have these yet. The agreement was that at the first progress meeting, which we are going to have in a few weeks in Buffalo on Lake Erie, all the States come up with the interim dates for their projects.

It may be that giving you six months or something to come up with these would be the thing, But I do think, Mr. Smith, that these interim dates are kind of essential for us, and not only us, because I think we have an obligation to keep the people informed, for the citizens, the press, and the other media to know if we are doing the job, or the city is doing the job. Otherwise, you have three years to wait, and you are not quite sure about this.

Let me make this last point, because this has been my experience in water pollution control. You can get all the people concentrating on the probaem just so often at a meeting of this kind, and then, if you go away and nothing happens for three years, the pressure points are such that the program may lag, and lag so much that it becomes irretrievably late if you don't pick it up.

Of course, we can overdo this, but I think a reasonable amount of interim dates in between will prevent that. Very often, the interim dates prove more embarrassing to the regulatory agency, and that includes us, more than anything else, because the newspapers begin asking the questions, and I am not reluctant to put that in.

I think it does us all some good.

MR. POSTON: Mr. Stein?

MR. STEIN: Yes.

MR. POSTON: I would like to say that in this whole pollution picture, one of the major things that I think has caused a lack of abatement of pollution has been the fact that the polluters haven't really felt that they had to do this, and they had to do it by a certain time.

I think that until we set dates, until we specify standards, until municipalities and industries realize that they must do these things, they are going to lag. Their business primarily isn't to abate pollution and to get rid of their wastes; it is some other purpose, and until we set time schedules and water quality standards, we are not going to make anybody believe that we mean business.

DR. JELATIS: Mr. Chairman?

MR. STEIN: Yes.

DR. JELATIS: I would like to ask a question about something that I am not very clear on. That is, you have heard the description of the procedure required by Minnesota law of protracted hearings and notice which are necessary in order for the Pollution Control Commission to set the standards.

Now, this procedure for the stretches of the river that are now not covered by standards, and for those stretches which the standards would have to be revised for, would require, under present legal hearing requirements, a time that would certainly be longer than the six months required or recommended for submission of preliminary plans for remedial facilities.

Now, would the adoption of standards by this conference automatically impose these as standards that apply to the State, or would we still have to go through the formal procedure of hearings?

MR. STEIN: Dr. Jelatis has asked a lot of questions in that. Let me try to answer them.

No. 1, I don't want to be the definitive man who is going to interpret Minnesota law. That is your job. I have read your law. I have read your law carefully, and I have read your law with interest. I know the procedures you have to go through to classify the waters.

If you think that and the establishment of standards mean the same thing, that is your law and you have to interpret that.

The second is that this conference is not going to establish standards. That is set up by another provision in the law in all the States and the Federal Government.

What we are going to do is set up certain recommended requirements for the clean-up of the waters in the Twin Cities area, and we hopefully are going to come up with a time schedule to do this.

What I am suggesting to you, and you know this is something that we all have to work on together, is that, generally speaking, we have found that setting up a timetable, and I don't think we are going to have any trouble with that, and setting up the requirements and a time schedule and six months' progress plans, which indicate whether we have these meetings or not, lead the way to getting things done.

Let me tell you that this works as much with the Federal Government as some others. In one of these operations, we were to meet a time schedule which we didn't quite do. For example, this involved a situation in Cleveland, and it came six months and one day, and the Cleveland newspapers began reminding us of this in ever-increasing crescendo. You know this helps, and I do think that by giving the people and the press a schedule like this to check on us, we give them some indicia where they can judge whether we are doing our job. I think this is fair. So this is the situation.

However, I do think the Minnesota people have a lot of things to think over themselves. I can't tell you how to run your State program, and how to run your law.

DR. JELATIS: Thank you.

MR. WISNIEWSKI: Mr. Chairman?

MR. STEIN: Yes.

MR. WISNIEWSKI: I would like, before the conferees decide firmly on this question of interim dates, to ask that they explore the enforceability of such a precedure, and we could do that before we make a decision.

MR. STEIN: I agree with you on that.

MR. WILSON: Mr. Chairman?

MR. STEIN: Yes, Mr. Wilson.

MR. WILSON: Mr. Chairman, may I call attention to this inescapable situation as far as the Minnesota Commission is concerned?

Under the Minnesota law, it is necessary for the Commission to hold hearings before the adoption of standards. Every standard is appealable.

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This, the necessity of adopting standards in advance before enforcement orders can be issued, has practically doubled and in many cases probably more than doubled the time for getting the enforcement action against specific sources of pollution, as compared with a system that was enforced in Wisconsin before the adoption of standards was required, where their State committee could issue an immediate order for the ceasing of pollution, or the adoption of remedial measures, without going through all the red tape of adopting standards in advance.

After the Minnesota Commission, after holding hearings lasting, I think, a total of eight days or so, spread over a period of several months in 1962, adopted the present standards for the stretch of the Mississippi River between Anoka and the mouth of the St. Croix, the most controversial standard, the one applying to the St. Anthony Falls Pool, was attacked in court by the North Suburban Sanitary District.

That resulted in a trial in the District Court of Anoka County that lasted some eight days or more, a year and a half ago, or a year ago last summer. Then the decision of the Court did not come down for nearly a year. I guess it was a full year before the District Court decided the case.

Then the Commission has taken an appeal to the

Supreme Court from the adverse decision. The District Court decided that the high standards which our Commission attempted to apply in that case were unreasonable, and the Commission, in order to sustain its standards, has taken an appeal to the Supreme Court.

There will be a transcript in that case of over 1,000 pages. The reporter hasn't gotten it done yet.

According to all the experience, we shall not be able to get a decision of the Supreme Court as to the validity of that standard until some time next fall or next winter at the very earliest.

Now, these are things which the Commission cannot control.

The adoption of other standards by the Commission has also been the subject of court attack, and in view of that situation, and the fact that the adoption of this New York standard system has multiplied the opportunities for court attacks on the various points, it is virtually impossible for the Commission to guarantee that it will issue an enforcement order by a certain time in any specific case. Any such declaration would have to be subject to the possibility that the affected municipality or industry might attack first the standards, and then suppose the standard is sustained and the Commission issues an order, that order will also be appealable to the courts with like delay.

It seems to me that the most that can be done is to depend on the past records of the Minnesota Commission of attempting to deal with these problems with the utmost diligence at its command, and that any attempt to impose hard and fast deadlines would have to be made subject to modification and recognition of these unexpected delays that may be encountered without fault of the Commission.

MR. SMITH: I would like to point out, Mr. Chairman, that for a year the Commission has used just what you have indicated, a time schedule; but in this case, where the lead time is necessary as far as our standards are concerned, our first six months date doesn't mean anything.

MR. STEIN: This may be, but I suggest that we think about this.

I think Mr. Wilson has raised a point. Let me try this with Minnesota, because, goodness knows, we are talking about the whole program and we are here to try to get a State-Federal program moving. We hope that you can reach all the qualifications and permit the uninterrupted flow of the waters of Minnesota, as well as the interstate waters of Minnesota. But, Mr. Wilson, you are right. I think that New York has abandoned that after fifteen years. They have classified the streams. They have had some magnificent lawsuits. They have been up to the highest court in New York State, which they call the Court of Appeals, two or three times, with tremendous decisions.

The difficulty is when you get through classifying all those waters, they found, lo and behold, that none of the waters were any bit cleaner than when they started.

Now, the Governor there instituted this, and we have been up there. There is a crash program for a clean-up. They voted a billion dollar Statewide bond issue to give to the cities, and, as far as I know, in New York State, we, the Federal people, are working with them practically as one staff now. There is no problem, but they went through this. You don't have to go through fifteen years before this happens.

Now, the next point: I appreciate all Mr. Wilson has said about this, and there is no finer lawyer in this world than Mr. Wilson.

As I pointed out, when we first started, anyone roughly in our generation who says he didn't learn the field from Mr. Wilson isn't in the field. He was the mentor of the law. This is all very true.

But I think, without prejudging, of course, or presuming what the Secretary is going to say, there may be one kind of judgment if you put in a standard and say it is accepted, or if it has been attacked in the courts and you have done what you could do under your administrative decisions, and then put it in the law. Goodness knows, we have to preserve the right of court attack and court appeal in every case. We are subject to it. The States are subject to it. We would not give this up.

This is the thing that makes the program work, that if anyone doesn't like what one of us stuffy, autocratic old bureaucrats can do, he can take us to court, and this we recognize.

However, the question here that we have to raise is to look at your State law and see if you can set standards on these streams.

Many of the States other than Minnesota have held hearings in two, three, four, five, six parts of the State, and have come up with criteria or are coming up with criteria covering the streams of those States, which they have every confidence will meet the Federal requirements.

Now, goodness, if any of these States come up with criteria and someone takes them to court, and this is beyond their control, this is part of the American system, and I think this would have to be looked at, but I will again make the plea to Minnesota to let's see if we can get with this and try to work this out.

I think as a forward-looking and a progressive State and a sophisticated State like Minnesota, in trying to deal with Federal people, who I hope are trying to help and accommodate you, we should be smart enough to be able to resolve this problem for the benefit of all the people here, rather than to have it resolved in a controversy, because if we don't come to this agreement, I think this is a failure on our part.

Let me say again we have a Federal law that we have to live with, and you have your law to live with. We both have complicated laws. I hesitate to blame a failure of people getting together just on awkward laws.

Chester, we have lived with awkward laws all our lives. If the failure happens, I am not sure that the people that are looking out here won't think it is a failure of the administrators, rather than the law.

DR. HARGRAVES: I would just like to add, as I said yesterday, that Minnesota has gone through all you have suggested so far.

We have held five hearings throughout the State. We have our sets of criteria and standards all set. It is only a matter of application.

During the night, I went through much of the Federal law, and I can't for the life of me see where it says that each stream shall be classified in order to apply these standards, so I think there is a very interesting legal -- and I am a medical man -- interesting legal aspect to this, as to whether what we have already done wouldn't still let us come in under the law, and then proceed and take care of the job.

MR. STEIN: I don't want to prejudge that now, but in further support of what you said, Dr. Hargraves, I would suspect that unlike Minnesota, there are about 30 to 35 States in the United States who are not authorized to classify their streams at all. They can set standards, but they cannot classify. Up until recently you weren't, until you adopted the New York system. Except for the New England States, New York, North Carolina, Minnesota, I don't know that there are any others. Very few of the other States have a classification system.

DR. HARGRAVES: If I remember rightly, in reading the hearings of Congressman Blatnik's Public Works Committee, it took North Carolina five to six years to complete their classification.

MR. STEIN: Let me get off the record.

(Discussion off the record.)

MR. WILSON: Mr. Chairman, may I add another comment, in view of what Dr. Hargraves has said?

I made some comments yesterday on the unexpected effect of these requirements of the Federal law of certain things to be done by June 30, 1967, and I want to point out this:

It is an elementary rule of statutory construction, sustained by court decisions all over the country, and by decisions of the United States Supreme Court, that every law is to be given a reasonable construction in the light of its purpose.

The purpose of the Federal Act, the purpose of the Minnesota Water Pollution Control Law, is to get ahead with the control of pollution as rapidly and effectively as possible, and if a liberal interpretation of these provisions of the Federal law such as has apparently been adopted by the head of the Federal administration is going to frustrate those purposes, it is not in accordance with the principles of established statutory construction.

You will find many cases where the courts have departed from the literal provisions of a statute in order to construe it in furtherance of the advancement of its purposes, and I want to repeat that if the present position of the Federal Administration is that if the Minnesota Commission does not by June 30th do certain things, which are apparently impossible, and then the Federal Government has to come in here and hold hearings and set up standards, it is simply going to delay the progress of the action program, which is already going on under the Minnesota Commission. Instead of advancing the purposes of the Federal law, it will delay and defeat them.

For that reason, Mr. Chairman, I again urge that there should be a reconsideration of this Federal decision, and it should be done very soon, before any action is taken at the current session of the Legislature that may upset this program.

MR. STEIN: Mr. Smith?

MR. SMITH: May I continue?

MR. STEIN: Yes.

MR. SMITH: The ultimate disposition of many of the matters involved herein will depend upon the action of our State Legislature, which is now in session, or be heavily influenced by such action or lack of it. These include the following:

a. Augmentation of the staff and resources of the Commission, and/or reorganization thereof. It is obvious that many of the tasks indicated, such as extensive monitoring, intensive review of works operation, liquid storage and solid wastes programs, follow-through with standards and construction schedules, etc., will require considerable staff over and above what the Commission has at present. If the staff is not provided, the Commission will have no alternatives but either to turn its back on the needs of most of the other parts of the State and other aspects of water pollution control, or to default in its responsibilities to this area.

b. New legislation probably will be needed specifically authorizing the Commission to require recovery of spilled wastes, such as oil, from watercourses, and to extend its control into the field of disposal of sewage arising from commercial shipping, documented vessels and other watercraft not licensed by Minnesota.

c. Creation of a metropolitan area sanitary district responsible to the Commission, to provide an integrated approach to construction and operation of waste disposal works for the entire area is badly needed. The Commission has continuously urged this concept for the past three sessions of the Legislature. Hopefully it may come to fruition in the present session if it is not lost in the confusion engendered by the multiplicity of proposals for solution of sewage disposal problems of the area.

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In concluding, the Commission would like to indicate that they sincerely hope that this conference will result in recommendations acceptable to all concerned, so as to assure maximum support for the Commission's policies, programs and objectives. Water pollution control is a monumental task, as evidenced by the resources the Federal Government has poured into it recently, but in order that our efforts be fruitful, the whole-hearted cooperation of all agencies, organizations and individuals involved is vitally necessary.

That is the end of my statement.

I would like to submit for the record the exhibits which I would like incorporated in the record.

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(The following exhibits were submitted for inclusion in the record.)

Exhibit 1

STATE OF MINNESOTA
WATER POLLUTION CONTROL COMMISSION

CHAPTER FOUR: WPC 4

WPC 4 Regulation relating to storage or keeping of oil and other liquid substances capable of polluting waters of the State

(a) Definitions

(1) The definitions given in this section shall obtain for the purposes of this regulation except as otherwise specified or indicated by the context.

(2) "Substance" means any liquid material which might cause pollution of any waters of the state if mixed therewith.

(3) "Safeguard" means a facility or device or any system or combination thereof designed to prevent the escape or movement of any substance or solution thereof from the place of storage or keeping thereof under such

conditions that pollution of any waters of the State might result therefrom.

(4) "Site" means any tract or parcel of land, including any constructed storage tank or artificial or natural basin or containment facility, except underground or buried tanks where any substance is stored or kept and which is so located that the escape or movement of such substance or a solution therefrom from the site or into the underlying ground might result in pollution of any waters of the State.

(5) "Stored liquid material" means liquid material which is within a container or containment device located within the State other than a mobile type unit while in transit, used for transporting said material from one location to another.

(b) Prohibition of Storage or Keeping Substances Without Safeguards. No substance shall be stored, kept, or allowed to remain in or upon any site without reasonable safeguards adequate to prevent the escape or movement of the substance or a solution thereof from the site under any conditions of failure of the storage facility whereby pollution of any waters of the State might result therefrom. It shall be the duty of every owner of such stored substances, or other person responsible therefor, to obtain from the Water Pollution

Control Commission a permit for the use of the site for the storage of liquid substances as provided in Section d or Section e.

(c) Safeguards. Unless otherwise prescribed by a permit issued under Section d or Section e as hereinafter provided, every safeguard shall comply with the requirements of this section, and shall consist of the following features.

(1) A continuous dike or wall entirely surrounding the site of such dimensions and construction that the emergency storage volume thereby created will be equal to not less than the total capacity of the largest storage tank or other container located within the area enclosed by the dike and will hold securely all of the aforesaid tank contents or any solution thereof in case of any failure of the container and the escape or movement of the substance or solution from its container or place of storage or keeping;

(2) A reasonably impervious bottom under the entire site and enclosure of such construc-

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tion or composition either natural or artificial as to prevent in case of any failure of the container the seepage, percolation, or other movement of any substance stored or kept on the site or within the enclosure or any solution thereof into the underlying ground in such quantity that substantial pollution of the waters of the state in the vicinity might reasonably be expected to result therefrom under conditions prevailing at the site.

(3) Any alternative method of adequate safeguards submitted by owners of stored liquid substances may be reviewed by the Water Pollution Control Commission. Upon finding that any such alternative safeguards are satisfactory and that they will reasonably protect any waters of the State against pollution by the stored liquid, the Commission may approve the use of said alternate safeguards in lieu of the above standards and may thereafter issue a permit in accordance with Section d or Section e hereunder.

(d) Permits - Issuance on Application. On application for a permit by the owner or other person responsible for the keeping or storage of any substance on any site the Water Pollution Control Commission may require plans showing the features and method of operation of existing or proposed safeguards in accordance with these regulations. Such plans must be accompanied by a certification as to the adequacy of such safeguards. The Commission may thereafter issue a permit therefor upon such conditions as it shall prescribe to prevent pollution of any waters of the State by such substance. Such permit shall be subject to modification or revocation by the Commission in like manner as provided by law for permits for the installation or operation of disposal systems or parts thereof.

(1) Before the issuance, denial, revocation or modification of a permit by the Commission any person whose vested rights may be adversely affected thereby shall, upon request therefor, be entitled to a hearing

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before the Commission for the purpose of presenting evidence thereat.

Written notice of the hearing stating the time and place thereof shall be given by the Commission to any person known by it to be directly affected by such action of the Commission either personally or by registered mail not less than 30 days before the date of the hearing.

(e) Flammable liquids. Notwithstanding the provisions of Section d, of these regulations, a permit may be issued to owners of a flammable liquid storage facility upon certification by the Minnesota State Fire Marshal that the requirements of the Minnesota State Fire Marshal's flammable liquids code as amended and Section b of these regulations, have been complied with and are currently being fulfilled.

(f) Inadequate Safeguards. In case the Commission shall find that any substance is stored or kept on any site without a safeguard, or that any existing safeguard is inadequate, it may by order require the owner or other responsible person to immediately remove the substance from the site and to refrain from further storage or keeping of any substance therein unless and until an adequate safeguard is provided as hereinbefore prescribed.

(g) Notice Concerning Loss. It shall be the duty of the owner of a liquid storage facility or other responsible person in charge thereof to notify the Water Pollution Control Commission at its office in the Minnesota Department of Health Building at the University Campus, Minneapolis, of any loss of stored liquids either by accident or otherwise when such loss involves a liquid substance which would be likely to enter any waters of the state. Said notice shall be by telephone or other comparable means and shall be made immediately upon discovery of the loss. The notification shall include the location and nature of the loss and other pertinent information as may be available at the time.

(h) Violations. Violation of any provision of this regulation shall be punishable as provided by law.

(i) Application. This regulation shall not apply to the disposal of sewage, industrial waste, or other wastes under permits issued by the Commission as provided by law.

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Exhibit 2

STATE OF MINNESTOA

WATER POLLUTION CONTROL COMMISSION

AN ACT RELATING TO WATERCRAFT; PROVIDING FOR THE REGULATION OF MARINE TOILETS AND THE DISPOSITION OF WASTES FROM WATERCRAFT, (Minnesota Statues 1961, Section 361.29, as amended by Chapter No. 313, Laws of Minnesota, 1963, as amended by Chapter No. 273, Laws of Minnesota, 1965)

Section 1. (MARINE TOILETS). Subdivision 1.

(a) For the purposes of this section the term "watercraft" has the meaning given to it by Laws 1959, Chapter 592, Section 2, Subdivision 7, and acts amendatory thereof.

(b) No person owning or operating a watercraft or other marine conveyance upon the waters of the State of Minnesota shall use, operate or permit the use or operation of any marine toilet or other similar device for the disposition of sewage or other wastes, unless the marine toilet is equipped with a treatment device of a type acceptable to the Water Pollution Control Commission of the State of Minnesota. No person shall discharge into the waters of this State, directly or indirectly from a watercraft, any untreated sewage or other wastes, nor shall any container of untreated sewage or other wastes be placed, left, discharged, or caused to be placed, left or discharged in or near any waters of this State from a watercraft in such manner or quantity as to create a nuisance or health hazard or pollution of such waters, by any person or persons at any time whether or not the owner, operator, guest or occupant of a watercraft or other marine conveyance.

Subdivision 2. The Water Pollution Control Commission shall upon request furnish a list of the types of treatment devices currently available and considered acceptable for the purposes of this section for use with such marine toilets. The Commissioner of Conservation shall furnish the sheriff of each county in the State of Minnesota with a list of such treatment facilities acceptable to the Water Pollution Control Commission of the State of Minnesota.

Subdivision 3. On and after April 1, 1966, no watercraft or other marine conveyance upon the waters of the State of Minnesota shall be equipped with any marine toilet unless also equipped with a treatment device acceptable to the Water Pollution Control Commission of the State of Minnesota; provided, however, that this requirement shall not be applicable to watercraft exempt from licensing under Section 361.03, Subdivision 12.

Subdivision 4. Any treatment device designed for use with a marine toilet, if in good working condition and of a type acceptable to the Water Pollution Control Commission of the State of Minnesota, is presumed to comply with the requirements of this Section.

Subdivision 5. The installation or presence of a marine toilet in a watercraft shall be indicated by the owner upon application for licensing of the watercraft or marine conveyance, and no license for any such watercraft bearing a marine toilet shall be issued except upon certification by the owner of the installation of an acceptable treatment device for use with such marine toilet.

Subdivision 6. A person who violates any provision of this Section is guilty of a misdemeanor.

Section 2. Notwithstanding the provisions of any other law to the contrary, Minnesota Statutes 1961, Section 361.29 does not take effect until April 1, 1966, except on the waters of the Mississippi River where Subdivision 3 of said Section 361.29 takes effect on January 1, 1967.

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Exhibit 3

STATE OF MINNESOTA

WATER POLLUTION CONTROL COMMISSION

Criteria for Acceptability of Marine Sewage Treatment Devices For Use in Conjunction With Toilets on Pleasure Boats or Other Small Watercraft

June 23, 1966

1. Definitions: The following terms are hereby defined for these purposes:

   a. Marine Toilet - any toilet when on or within a boat or other watercraft subject to licensing in Minnesota, as defined in Minnesota Statutes, 1961, Section 361.29, An Act Relating to Watercraft; Providing for the Regulation of Marine Toilets and the Disposition of Wastes from Watercraft.

   b. Sewage - all human body wastes in admixture with water or otherwise as discharged from a marine toilet.

   c. Sewage Treatment Device - any device connected to a marine toilet for the purpose of treating, storing or disposing of the sewage discharged from the toilet.

d. Effluent - the mixture of fecal material, urine, flushing water, disinfectant chemicals, or other materials as discharged from the treatment device.

e. MPN (most probable number) - a statistical measure of the number of coliform group organisms present in water or sewage as defined in the latest edition of "Standard Methods for the Examination of Water, and Waste Water," APHA, AWWA, WPCF, and determined in accordance with such methods.

f. Suspended Solids - the solid particles in suspension in the effluent of the sewage disposal device, determined in accordance with "Standard Methods."

g. Chlorine Residual - as determined in accordance with "Standard Methods."

2. General Objectives:

a. The sewage treatment device shall be constructed, installed, and operated so as to minimize to the maximum practicable extent possible nuisance conditions and health and safety hazards associated with the discharge of sewage or use of the marine toilet and treatment unit.

b. Materials used shall be reasonably resistant to corrosion under the conditions of use and of ample strength for safe operation with any commercially available marine toilet and type of watercraft.

c. The unit shall be so constructed and installed as to avoid the escape of gases or obnoxious odors into the boat, be relatively easy to operate and maintain, and function automatically with the operation of the marine toilet.

d. The disinfectant chemicals used and the treatment or disposal methods shall be such that the effluent if discharged from the treatment device to waters of the State will not be a substantial source of pollution as defined by law (Minnesota Statutes, Chapter 115), or so that the effluent and manner of discharge will not affect adversely any component of on-shore sewage disposal systems, including municipal or other sewage treatment works.

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e. The acceptability of a treatment device to the Minnesota Water Pollution Control Commission generally will be based upon certification by a consulting engineer registered in Minnesota that the device (a full scale prototype, or production unit substantially equal to a stock unit chosen at random from a dealer) was tested under conditions of actual use, but not necessarily mounted in a boat, for a period of two weeks with a minimum of at least one defecation daily (and preferably more), was found to be generally satisfactory in construction and operation, and that the unit and the effluent test results meet the general and specific objectives given herein.

Reliable information from other sources, however, may be considered and upon favorable evaluation by the Executive Engineer, the subject device may be recommended to the Water Pollution Control Commission for acceptance on the basis of substantial conformance with the criteria.

3. Specific Objectives: The effluent of the marine toilet and on-board sewage treatment device combination, when discharged to surface waters, shall meet the following minimum conditions:

a. Not more than 5% (by weight) of the suspended solids in the effluent shall be larger than 1/4 inch in any dimension, and at least 75% of the suspended solids in the effluent shall be no larger than 1/8 inch in any dimension. Solid materials readily recognizable as being associated with sewage shall be reduced to a minimum.

b. A substantial chlorine residual shall be present in the effluent at all times (if chlorine is used as the disinfecting agent).

c. The coliform group organisms in the effluent test samples, after dechlorination and maceration in a laboratory blender, shall not exceed 1,000 MPN/100 ml in more than 10% of the test samples, and the average of 10 consecutive daily tests shall not exceed 500 MPN/100 ml.

4. New Developments: Consideration will be given to the use of other disinfecting agents or methods of treatment if test results demonstrate that the foregoing objectives

can be met.

APPROVED by resolution of the Minnesota Water Pollution Control Commission, June 23, 1966.

Robert N. Barr, M. D., Secretary
Water Pollution Control Commission

Dated: June 23, 1966

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Exhibit 4

STATE OF MINNESOTA
WATER POLLUTION CONTROL COMMISSION
Sewage Treatment Devices for Installation on Pleasure Boats or Other Small Watercraft

The Water Pollution Control Commission on the dates indicated accepted the following devices for use in conjunction with marine toilets on pleasure boats or other small watercraft for treatment of sewage, as required by Section 361.29, Laws of 1961.

L. H. Smith

1. "C-Chlor Mark 5", manufactured by Carlson and Son, 19 James Place, Metuchen, New Jersey, (December 21, 1962).

2. "Marine Chlorinator", manufactured by Apollco Corporation, 1391 Pierce Butler, St. Paul, Minnesota, (April 18, 1963).

3. "Destroilet", manufactured by La Mere Industries, Inc., Walworth, Wisconsin, (February 27, 1964). This device is accepted for use on pleasure boats with the condition that the device and all fuel tanks and other appurtenances be installed and maintained in compliance with applicable regulations of the U. S. Coast Guard (Title 46 CFR 55.16) and any requirements of the Minnesota Fire Marshal relating to the use of liquid petroleum gas on boats. The device is not acceptable for use on vessels operated within the U. S. Coast Guard jurisdiction which are used in the carriage of passengers for hire because the use of liquid petroleum gas on such vessels is prohibited by Coast Guard regulations. No statement indicating acceptance of the device by the Water Pollution Control Commission shall be used in any advertising

promotion or sale of the device unless the statement includes, in the same size type, the following: "Accepted as to pollution control capabilities only and not evaluated as to safety hazards."

4. **"Mono-Marine Sanitation System"**, manufactured by Monogram Industries, Inc., 8525 Steller Drive, Culver City, California, 90231, (March 26, 1964). This device is accepted with the following conditions so that there will be no discharges of sewage from the system directly to waters of the State:

a. The tank and/or outlet piping must be installed on the boat so that gravity discharge to the waters will not be possible.

b. Individual tank discharge pumps on the boat are prohibited in Minnesota waters.

c. Discharge of the tank contents may be done only by dockside or on-shore facilities and the contents may be discharged only to disposal facilities operated under a permit from the Water Pollution Control Commission.

d. If relatively large quantities of such treated tank contents are to be discharged to a disposal system in a short period, a surge tank may be required to equalize the flow and avoid possible detrimental "slug" effects upon the sewage treatment works.

5. "Monomatic Marine Sanitation System," Model 1, manufactured by Monogram Industries, Inc., 8525 Steller Drive, Culver City, California, 90231, (February 28, 1966). This device is accepted with the same conditions given above for the Mono-Marine unit so that there will be no discharge of sewage from the system directly to waters of the State.

6. "SANITANK" System, manufactured by PEFCO, Inc., 1380 University Ave., St. Paul 4, Minnesota (interim acceptance by Executive Engineer on June 7, 1966, and confirmed by Water Pollution Control Commission on June 23, 1966). This device is accepted with the same conditions given above for the previously accepted storage tank devices (MonoMarine and Monomatic systems, No. 4 and 5 above, items a, b, c and d), so that there will be no discharge of sewage from the system directly to waters of the State, plus the following:

e. If the chemical additive does not prove to be effective in controlling odors at the recommended dosage, the dosage shall be increased or other chemicals acceptable to the Commission shall be provided to ensure nuisance free operation.

These devices are considered to be in substantial conformance with the general objectives of the Criteria for Acceptability of Marine Sewage Treatment Devices, Minnesota Water Pollution Control Commission, dated June 23, 1966, with exceptions noted above. Additional devices may be added to this list at a later date, based upon submission of satisfactory data by the manufacturer or other sources.

The test data required by the Criteria will in general be used as a guide for the evaluation of such devices, but consideration will not be limited thereto. The Criteria may be revised at reasonable intervals of time on the basis of experience and new developments. In the event of such revision, a new list of acceptable devices will be issued.

This list was prepared for the purpose of compliance with the requirements of the Minnesota statutes, (Section 361.29, Laws of 1961, as amended by Chapter 313, Laws of 1963, and Chapter 273, Laws of 1965) relating to disposal of sewage and wastes from watercraft, and is not to be construed as an endorsement of these devices for any other purpose.

Dated: June 23, 1966 Robert N. Barr, M. D., Secretary
Water Pollution Control Commission

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Exhibit 5

MINNESOTA DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
SECTION OF WATER POLLUTION CONTROL

Water Pollution Control Practices Recommended for Application for Dumps, Deposits and Stockpiles

December 16, 1965

In order to protect surface and ground waters from pollution by refuse and other solid materials of a pollutional character, it is necessary to keep such materials and drainage therefrom separated from such waters. The precautions which must be taken to achieve this will depend primarily on the nature and location of the site with respect to such waters, and the type of material dumped or stored.

The best location for a disposal or stockpile site would be one above flood levels, far removed from lakes, wells or local drainage courses, and having a substantial depth of relatively impervious surface soil above the ground water table. Such sites present few, if any, water pollution problems and consequently do not usually require special safeguards to protect the waters of the State. The following sites are considered undesirable and should be avoided whenever possible.

1. Areas where water is present at or near the surface, such as sloughs or swamps.
2. Areas in river flood plains which are subject to flooding.
3. Areas adjacent to lakes or streams which drain to such waters.
4. Ravines or valleys which may at times carry run-off or snow melt.
5. Areas near municipal or private water supplies, either surface or underground.

In the event that any of the foregoing must be utilized, safeguards adequate to protect the waters of the State are required, and permits for construction and/or operation must be obtained from the Water Pollution Control

Commission as required by Sections 115.01 and 115.07 of the Water Pollution Control Statutes. Construction plans and fairly detailed project data must be submitted for review and approval before the permits can be granted.

Depending upon the situation, the safeguards required may include any or all of the following:

1. Diking around the site.
2. Diversion or containment of surface drainage.
3. Sealing of pervious soil or rock formations.
4. Covering of dumped or stored material to minimize erosion and control drainage and storm water percolation.
5. Regular supervision and control of operations.
6. Provision of an alternate disposal site.

Earth dikes should be constructed on stable foundations in compacted lifts of relatively impervious soils. Material containing large rocks, or excessive quantities of gravel and/or broken stone, should be avoided. Diking may be done annually to the maximum projected operational level for the year, if an adequate stockpile of earth is maintained for covering in the case of a flood, or, if desired, the dikes may be constructed in a single stage to an elevation above the maximum recorded flood stage.

Surface drainage, whether natural or resulting from private or public works, preferably should be diverted externally, but may be carried through the site in a watertight conduit, so that it will not under any circumstances come in contact with the dumped or stored material.

The use of a site in a location where run-off from the site itself may enter underground water supply aquifers is not recommended. Areas of very pervious soil or fragmented rock formations which either reach the surface or lie close to the surface should be avoided, otherwise artificial sealing of the bottom of the site with such materials as clay, bentonite, asphalt, synthetic mats, etc., may be required to prevent percolation of contaminated run-off and leach waters into the underground formations. In some cases, construction of special wells or drains may be necessary to permit sampling and analysis of the waters surrounding the site.

Except for the active face, refuse dumps and sanitary landfills should be kept covered with relatively impervious earth and graded so as to shed water from the surface and drain it from the site without coming in contact with refuse. The earth mantle should have a minimum thickness of two feet to discourage burrowing animals. A stockpile of suitable earth should be on hand at all times in sufficient quantity for normal daily covering of the fresh refuse, for over-winter use and for a reserve to provide a ready source of cover material in the event of a flood forecast. Other types of dumps or stockpiles may require other kinds of cover or the use of other methods to prevent excessive leaching or loss of material as may be indicated by the prevailing circumstances.

The dumping of refuse should be supervised so that the refuse is placed correctly in the fill, properly compacted, and covered. Only one main access road to the dump should be open to the public, and all other points of access should be fenced unless other effective barriers exist. The main access road should have a gate which can be kept locked when a supervisor is not on duty. In general, only solid or semi-solid refuse should be accepted for disposal at a dump. Large quantities of liquids or materials which may be highly flammable, explosive or toxic may require special handling.

In situations where the site may not be accessible during flood periods, or because of road restrictions or other conditions, an alternate site should be provided to serve during periods when the primary site is not usable.

The nature and operation of all manner of dumps, deposits, or stockpiles must not only be controlled by the sufficient quantity for normal daily covering of the fresh refuse, for over-winter use and for a reserve to provide a ready source of cover material in the event of a flood forecast. Other types of dumps or stockpiles may require other kinds of cover or the use of other methods to prevent excessive leaching or loss of material as may be indicated by the prevailing circumstances.

The dumping of refuse should be supervised so that the refuse is placed correctly in the fill, properly compacted, and covered. Only one main access road to the dump should be open to the public, and all other points of access should be fenced unless other effective barriers exist. The main access road should have a gate which can be kept locked when a supervisor is not on duty. In general, only solid or semi-solid refuse should be accepted for disposal at a dump. Large quantities of liquids or materials which may be highly flammable, explosive or toxic may require special handling.

In situations where the site may not be accessible during flood periods, or because of road restrictions or other conditions, an alternate site should be provided to serve during periods when the primary site is not usable.

The nature and operation of all manner of dumps, deposits, or stockpiles must not only be controlled by the owner so as to avoid any actual or potential pollution of any waters of the State, but should also be such as to avoid causing a nuisance to others in the vicinity.

* * *

MR. STEIN: Thank you.

Are there any further comments or questions?

(No response.)

MR. STEIN: If not, I think this is a very excellent statement, Mr. Smith.

I think you have raised many policy and technical questions which I am sure will need very careful consideration by the conferees if we are going to resolve this matter.

I do think that while they are fundamental as to difference, with good will we can work out a formula which will be acceptable to all, Wisconsin, Minnesota, and the Federal Government.

DR. JELATIS: Mr. Chairman, I have a question about a technical matter that has been brought up a number of times here, and that is the BOD loading of the stream between the MSSD plant and South St. Paul. There seems to be some question as to the compatability of the Federal Summary recommendations of, I believe it is, 3 milligrams per liter dissolved oxygen in a 7-day period in a 10-year area, as against the other recommendations of the Minnesota Water Pollution Control Commission of 1 milligram per liter in a 1-day period of 20 years.

I wonder if we could get some clarification of these matters?

MR. STEIN: Mr. Printz, are you the man for that? Would you come up here, and maybe Mr. Smith would like to join in the colloquy in this, if there is any?

DR. JELATIS: Is this a good time to do it? Perhaps you would like to wait.

MR. STEIN: No. This has to get settled.

Come up, Mr. Printz.

If this is going to be in your minds, you are not going to think about anything else. Let's iron this out.

MR. PRINTZ: Mr. Chairman, for the record, I am Albert Printz.

This was one thing that we thought might be better discussed in the technical session to which you referred. However, since the Mayor has brought it up, we will be very pleased to discuss the basis of our three milligrams per liter and the basis of the seven consecutive days.

MR. STEIN: Let's start that 7-day thing first.

MR. PRINTZ: I think to better explain this I will probably need to draw upon some of our staff that did assist in the development of this, and the reason for its selection.

The State has two basic criteria which I think are quite clear. If you will allow me to proceed on this, the first criterion has been established as 2 milligrams per liter as a minimum at flows exceeded 90 percent of the time, using as a basis of this calculation the mean monthly flows.

The second criterion to which the State has referred as being more stringent is based on a 1 milligram per liter minimum dissolved oxygen at flows exceeded 95 percent of the time based on the minimum daily, as opposed to the previous monthly flows.

The Federal recommendation is one which will uniformly apply throughout the entire study area and will not change between river systems. That is a minimum, and again I stress a minimum dissolved oxygen of 3.0 milligrams per liter, based on a recurrence interval of 7 consecutive days' flow, which would recur once every 10 years.

We feel that the allowable loadings which have been determined on the basis of our flow and our knowledge of the river's characteristics are more stringent than the

State's criteria, No. 1; and we feel that there is very little difference in the allowable loadings between our criteria and the State's criteria, No. 2. We have recommended the 7-consecutive-day once-in-10-year low flow period because of its widespread application throughout the country.

There are other factors involved in this, and for an explanation of these factors, I would like to call upon Mr. Frank Hall of our staff, who prepared the supplementary report which you gentlemen have in your package of reports, the one entitled "Hydrographic Studies," where an explanation of some of this is given.

So, with that Mr. Hall, would you come forth and give a further explanation of the reasoning behind the 7-consecutive-day once-in-10-year low flow period?

STATEMENT OF FRANK E. HALL, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, UNITED STATES DEPARTMENT OF THE INTERIOR, GREAT LAKES REGION, CHICAGO, ILLINOIS

MR. HALL: Mr. Stein, Conferees, Ladies and Gentlemen: I think it is recognized that what is important is the flow below which the criteria will be exceeded. The question involves the method for defining this flow, as I see it.

Now, when describing the method, this is an academic question if you assume that both types of analyses are valid, and they are, both the method that Minnesota uses, which I will leave to them to describe, and the method that we use.

Now, why did we use the method we used?

Mr. Printz hit one or two of the points, but there are three basic reasons why we used this.

First, the method used in the Federal Report is widely used. The Federal Water Pollution Control Administration uses this method nationwide.

Second, as utilized for the purposes of this report, it provides a uniform measuring stick, that is, the definition of the flow is consistent. The definition when applied to different streams and different parts of the same stream, will provide different flows. For example, if we call the definition "big," a big flow on the Minnesota River would be a different value than a big flow on the Mississippi River, but the point is, and the Federal Water Pollution Control Administration uses this reasoning, that the definition is uniform. That is why we are using it in the report.

Finally, I have found, as have many of my colleagues, that this method is more readily understood by both those technical people working with the hydrologists and the non-technical individuals.

MR. STEIN: Now you see the technical thinking that we can get into. I think I can put this down as -- I hope I can and I am not going into the technical aspects -- a computation of the basis that they are dealing with compared with dancing and walking.

I am all for it with the technical people. The technical people have to come up with it.

To give you the notion, you are dealing with a low flow. The computation, as I understand, they use in Minnesota by and large is on the basis of 1 day in a 20-year period. Wisconsin uses an average 7-day in a 15-year period. Our boys are proposing 7 days in the 10-year period.

You shake all these up and you roll them out, and I don't know.

(Laughter.)

This is the kind of argument you get. The issue here, as I understand the basis of our argument here, is for administrative needs to get acceptance, and not to get a diversity of operations. Our boys are proposing the 7 in 10.

Obviously, I don't think the professionals have zeroed in on any of these. For historical reasons I assume

Minnesota has 1 in 20. For historical reasons, Wisconsin has 7 in 15.

This is always the case when we get this new wave generation. These kids are grinding these computers and they come up with something new. I don't know that this is a fundamental issue. Are we ready to take the computation of the new wave kids coming along, of the wave of future computees, or do we want to go along with the old historical things in the State.

On this issue, I don't think it makes very much difference.

DR. JELATIS: I would like to comment on this just briefly.

MR. STEIN: Yes.

DR. JELATIS: I am sure that the study group here has made a computer model of the river flow.

MR. STEIN: Right.

DR. JELATIS: And from this model, I am sure they can give us what the figures are on the Minnesota and the Wisconsin and the Federal thinking, and how they could correlate, but I think that this ties in with a question that you asked yesterday about 5 milligrams per liter.

I think this was stated by Mr. Printz, that 5 milligrams per liter would be exceeded 75 percent of the time, and you said, "Why not put this in as a recommendation?" I wonder if later in the technical discussion we can't go into this in a more refined way, and say 1 milligram per liter for a certain percentage of the time, 5 milligrams, or whatever it is.

MR. STEIN: We will do that, and I think we can arrive at a judgment.

Let me for just one second get off the record.

(Discussion off the record.)

MR. WISNIEWSKI: Mr. Chairman, I would like to correct one of your remarks.

MR. STEIN: Yes?

MR. WISNIEWSKI: You mentioned setting up the formula that no State is less than another, and so forth.

I think the important thing to understand is that all States get less than they should be getting because of these formulas.

(Laughter)

MR. HOLMER: Uniformly.

MR. STEIN: Well, off the record here.

(Discussion off the record.)

MR. STEIN: Is there anything else?

MR. SMITH: I have a large number of people who wish to make presentations.

May we have a short recess?

MR. STEIN: We will recess for ten minutes, and then we will go on with the presentations.

(Whereupon a recess was had.)

MR. STEIN: May we reconvene?

I will now ask Minnesota to call on their participants.

Mr. Smith?

MR. SMITH: I would like to call on the people who wish to make statements by following the list contained on Pages 23 and 24 of the Report first, and then we will call on those not listed specifically for different portions of the report.

The first statement that I have is from the City of Minneapolis.

Is there anyone here to give that statement this morning?

(No response.)

MR. SMITH: If not, may I have this read?

MR. STEIN: I would say, if there are any statements, it would be appreciated if a copy were given to the reporter, if you have another copy. If you don't, then will you give it to him at the conclusion of the statement?

STATEMENT ON BEHALF OF THE CITY OF MINNEAPOLIS, READ BY GARY GINNER, ENGINEER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER: For the record, my name is Gary Ginner and I am with the Minnesota Department of Health. I will read the statement.

CITY OF MINNEAPOLIS

STATEMENT FOR PRESENTATION AT THE FEDERAL AND INTERSTATE CONFERENCE ON POLLUTION OF THE MISSISSIPPI RIVER AT MINNEAPOLIS

FEBRUARY 28, 1967

The Public Works Department of the City of Minneapolis is responding to the invitation of the Water Pollution Control Commission with respect to the policy of the City of Minneapolis concerning the problem of pollution with reference to the Mississippi River as it involves the city.

As the largest city on the Upper Mississippi River Watershed, the City of Minneapolis has long recognized and exercised its responsibility in the control and abatement of water pollution and the protection of the Metropolitan Area's water resources.

In 1933, as the culmination of an extensive investigation of the pollution of the Mississippi River, the City of Minneapolis joined with the City of Saint Paul as the major participants in the Mineeapolis-Saint Paul Sanitary District. The accomplishments of the Sanitary District include the engineering and construction of a major system of interceptor sewers and treatment works which set the pattern of downstream pollution abatement and waste treatment practices. Beginning operation in 1938, the Sanitary District's primary sewage treatment plant has established an outstanding record of successful and efficient operation, effecting a significant improvement in the past downstream river conditions and maintaining reasonable levels of water quality.

In response to the surge of growth and development experienced in the Minneapolis-Saint Paul Metropolitan Area in the early 1950's, the Minneapolis-Saint Paul Sanitary District in 1956 embarked upon a costly and extensive study of the sewage works requirements of the metropolitan area. With the preliminary investigation essentially completed in June 1961, the District authorized a major expansion program to the existing Pig's Eye Lake Sewage Treatment Plant. This treatment plant expansion project, which has a total estimated cost of $25,750,000, is now approaching completion of construction. It includes additional capacity for the

G. Ginner

growth and development of the two Central Cities as well as the contracted suburban communities which comprise a sewered area nearly double that of Minneapolis-Saint Paul proper. In addition, the new expanded treatment plant includes secondary treatment which will accomplish levels of treatment substantially higher than that presently attained.

Supplementing the program of the Sanitary District, the City of Minneapolis has instituted independent programs which have benefited long-range water pollution control objectives. The city's program of replacing the original combined sewer system with separate storm and sanitary sewers has substantially reduced overflow of untreated sewage to the river during times of rainfall and runoff. Over the years, approximately $22 million has been expended on this storm water separation program. An accelerated program has been scheduled for the future years, and these projects are being constructed as rapidly as financial resources permit.

The September 1960 report of the engineering consultants to the Sanitary District (Volume Three, Page 12-4) shows that of the 27,710 acres of sewered area in the City of Minneapolis, 15,847 acres (or over 57%) was served by separate sanitary and storm sewers. Work completed since this report was made, together with projects now being built, will add approximately 4,000 acres served by separate sewers, increasing to over 70% the total area having completely separated sewers. The conversion of substantial areas of Minneapolis from a combined system to separate sewers for storm water and sanitary sewerage has made it possible for Minneapolis to convey through its system of trunk sewers and interceptors the sanitary sewage from surrounding suburban communities. At the present time there are twenty-seven suburbs and agencies that use or have made arrangements to use the Minneapolis sewer system.

In the spring of 1962 the State of Minnesota, through its Water Pollution Control Commission and State Board of Health, held formal hearings proposing "classification of the Mississippi River and its tributaries between the Rum River and the St. Croix River and for the establishment of Pollution Standards therefor." The City Council authorized introduction of a statement favoring the proposed classification. Standards proposed for the section between the Rum River and St. Anthony Falls are essential to protect the water supply of Minneapolis, St. Paul and the suburban areas presently being served by the Minneapolis and Saint Paul Water plants. The standards proposed for the section between St. Anthony Falls and the Minneapolis-Saint Paul

Sanitary District plant "will when adopted and enforced be of great benefit to the residents of the Metropolitan Area." This stand, by the City of Minneapolis, in favor of the classification and regulation of these two sections of the Mississippi River was taken with full knowledge and understanding of the obligations it was assuming.

In summary, the City of Minneapolis believes that its record of past accomplishments, its policy of continuing as rapidly as possible its storm sewer program, its cooperation with the State Legislature, the State Board of Health, and the Water Pollution Control Commission and suburban communities is a commendable one and indicates clearly its determination to improve the quality of the water in the river.

CITY OF MINNEAPOLIS

By Thomas A. Thompson (Signed)
Thomas A. Thompson,
Director of Public Works

By Keith M. Stidd (Signed)
Keith M. Stidd,
City Attorney

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, thank you very much.

Mr. Smith?

MR. SMITH: The next statement is from the Northern States Power Company.

STATEMENT OF ARTHUR V. DIENHART, MANAGER OF ENGINEERING, NORTHERN STATES POWER COMPANY, MINNEAPOLIS, MINNESOTA

MR. DIENHART: My name is Arthur Dienhart and I am the Manager of Engineering at the Northern States Power Company, with headquarters in Minneapolis.

I will read for the record a statement on behalf of the Northern States Power Company. The statement is as follows:

Convinced that water is a vitally important natural resource and asset in our service area, Northern States Power Company sincerely supports the statutory policy of Minnesota, "to provide for the prevention, control, and abatement of pollution of all waters of the State, so far as feasible and practicable, in furtherance of conservation of such waters and protection of the public health and in furtherance of the development of the economic welfare of the State." We are further convinced that at the present level of technology such State policy can be fully compatible with the obligation of Northern States Power Company to meet the rapidly growing power requirements of the public.

For this reason we supported the actions of the Minnesota Water Pollution Control Commission in its adoption of classifications and standards for reaches of the Mississippi and Minnesota Rivers in the vicinity of the Minneapolis-St. Paul metropolitan area and its proposal of procedures for establishing such classifications and standards State-wide. We firmly believe that specific guidelines for the regulation of the use of waters by industry is an essential aid to industrial planning, particularly to a public industry such as Northern States Power Company, because construction of new facilities must be completed on a schedule to meet public requirements.

The aforesaid action of the State Commission covers to a large extent the same waters covered by the recommendations of this conference. Located on these waters are the three major generating stations of Northern States Power Company, namely, our Riverside plant, High

Bridge plant and Black Dog plant, constituting a total generating capacity of about 1.5 million kw. In connection with such Commission action we have conducted, in cooperation with the Commission's staff, a comprehensive series of river temperature surveys and have filed with the Commission the results of those studies. Studies have also been made of other plant effluents to determine if the standards were being met. All our plants are operated in accordance with the applicable State standards. This information has also been made available to Federal agencies to assist in studies for this conference.

We have reviewed the recommendations of this conference and note that a specific recommendation has been made that Northern States Power Company utilize the existing cooling pond at its Black Dog plant to its fullest extent during the summer at stream flows less than 1,500 cfs and that during these periods the thermal addition to the Minnesota River should not exceed 13.5 billion BTU per day. Northern States Power Company will comply with this recommendation in the operation of its Black Dog plant.

Northern States Power Company's policy of full cooperation to control water pollution not only involves proper operation of existing generating plants but the design and construction of future plants which will incorporate modern facilities for the prevention of water pollution.

To meet its growing power requirements Northern States Power Company is presently constructing its King plant at Oak Park Heights, Minnesota, on the St. Croix River and its Monticello plant at Monticello, Minnesota, on the Mississippi River. These large modern plants will commence operation in 1968 and 1970, respectively. We also recently announced plans to construct for 1972 operation a large plant on Prairie Island, upstream from Red Wing, Minnesota, on the Mississippi River. In addition, we also have plans to purchase a site for a future generating plant above Carver, Minnesota, on the Minnesota River in Scott County. We have held numerous conferences and discussions with the staffs of the Minnesota Water Pollution Control Commission and the Department of Conservation in order to assure that the design criteria of these plants fully comply with the regulatory objectives of these State agencies.

To assist in the design of the King plant, the St. Anthony Falls Hydraulic Laboratory of the University of Minnesota was retained to construct a model of the river and study the thermal effects of the proposed plant upon the river. As a result of this study, a submerged intake and a wide shallow discharge were designed to confine the cooling water discharges to a shallow layer over the surface of the river. A hold-up pond is being constructed at that plant to retain ash transport water and demineralizer effluents for settling and neutralization.

After extensive public hearings, the Minnesota agencies issued permits for the appropriation and discharge of water from the King plant. These permits require cooling towers in order to limit the temperature of the cooling water discharges. The entire coal storage area will be enclosed by a dike and its bottom will be covered with impervious material for the purpose of preventing the direct run-off of rain water from the coal area into the river or ground. The permits provide for pre and post operational monitoring of environmental conditions which include extensive studies of river temperatures, algae, macro invertebrates, fish, and chemical constituents of the river. The other future plants of Northern States Power Company will be designed and constructed with equal care for the prevention of water pollution.

Northern States Power Company has entered into a positive program of plant operation and costly construction in order to fully cooperate with the efforts of governmental agencies to protect the waters of the midwest.

Respectfully submitted,

(Signed) D. F. McElroy

Vice President - Engineering

That concludes the statement. Copies have been given to Mr. Lyle Smith for submittal to the formal record.

MR. STEIN: Are there any comments or questions?

(No response.)

MR. STEIN: Well, we have been hearing a lot about the Northern States Power Company. I was up at Stillwater and am kind of familiar with that controversy.

I see you have several devices, cooling towers, and so forth, and so on?

MR. DIENHART: Yes, sir.

MR. STEIN: How much above the water temperature that is taken in will the water be when you discharge it, or will it be pretty close?

MR. DIENHART: This will vary. The permit from the State requires that at the point of discharge to the lake, the temperature shall not exceed 86 degrees, and that is the basis upon which the cooling towers and the discharge structures were designed.

The degree of rise then would vary over the year, depending, of course, upon the temperature of the incoming water.

MR. STEIN: But you have a maximum discharge of 86 degrees?

MR. DIENHART: That is correct.

MR. STEIN: Is that at the point of discharge, or do you have a mixing zone?

MR. DIENHART: That is at the point where the discharge enters the lake. There is no mixing zone provided in the permit.

MR. STEIN: Thank you.

Are there any further questions?

(No response.)

MR. STEIN: Thank you very much.

Mr. Smith?

MR. SMITH: Next I would like to call on the Minneapolis-St. Paul Sanitary District.

STATEMENT OF KERWIN L. MICK, CHIEF ENGINEER AND SUPERINTENDENT, MINNEAPOLIS-ST. PAUL SANITARY DISTRICT, MINNEAPOLIS, MINNESOTA

MR. MICK: Mr. Chairman, Conferees:

My name is Kerwin L. Mick, Chief Engineer and Superintendent for the Minneapolis-St. Paul Sanitary District.

The District feels that the Federal survey was a very valuable project and it furnished a great deal of valuable data for use in controlling the pollution of the waters in this area.

We were somewhat disappointed in the publicity, you might say, that resulted from the summary report of the survey, because there was no mention of any accomplishments towards the solution of these problems on the part of the District, or, for that matter, the Water Pollution Control Commission.

Those points have already been brought out. We felt that that was a mistake. They should have at least recognized what progress has been made. The implication has been created as a result of the publications in the press, and has given the public the impression, that nothing has been done, and the facts do not support this impression.

We have here a nine-page statement and a three-page summary that was approved by our board of trustees at the meeting on February 27th. Copies of this statement have been furnished to the conferees through the State Water Pollution Control Commission, and unless the conferees wish, I will read the summary only, unless they wish me to read the complete report.

MR. STEIN: Just the summary, if you would.

By the way, we are not cutting you off. If you feel you want to read the entire report, the rostrum is yours.

MR. MICK: I am assuming that the conferees will consider the complete report.

MR. STEIN: Yes, and they will not just accept the summary. If you wish, the entire report will appear in the record as if read.

MR. MICK: Thank you.

MINNEAPOLIS-SAINT PAUL SANITARY DISTRICT

STATEMENT TO THE

FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

U. S. DEPARTMENT OF INTERIOR

February 27, 1967

INTRODUCTION

The Minneapolis-Saint Paul Sanitary District has a direct and predominant interest in the Federal Water Pollution Control Administration report on "Summary and Pollution Abatement Recommendations." The District's concern in this area is a twofold one; one phase is a responsibility to control and abate water pollution through the provision and operation of treatment works; and the other is a responsibility to provide economical sewage service to more than a million customers.

As in the past, the District endorses reasonable river water quality objectives which are commensurate with downriver water uses. On the other hand, the District opposes water quality standards and the consequent higher waste water treatment requirements which fail to consider the cost of treatment in terms of the benefits attained. The District urges a reasonable and realistic balance between the cost of treatment and the results of treatment.

LIMITATION OF REVIEW OF REPORT

The Minneapolis-Saint Paul Sanitary District has given preliminary review to the "Summary and Pollution Abatement Recommendations" of the Federal Water Pollution Control Administration. Because of the fact that copies of the complete report were not made available and a very limited time was allowed for the evaluation of the Summary Recommendations, the District has been unable to fully determine the impact of these recommendations upon the interests of the District. Accordingly, the District requests a postponement or extension of this conference to permit a thorough assessment of the immediate and long range effect. A recess of 60 to 90 days is necessary following the availability of the complete report for the purpose of a proper evaluation.

GENERAL PROGRESS TOWARD POLLUTION ABATEMENT

The Federal Water Pollution Control Administration report gives the impression that the Minneapolis-Saint Paul Sanitary District has no active program for the abatement of pollution. The fact is that the District has made real and significant progress toward the accomplishment of a pollution control program on the Mississippi River which is compatible with the recommendations of the Federal Water Pollution Control Administration report.

Comprehensive investigations and studies have been conducted of the sewage works and water pollution problems. Moreover, the District has undertaken a vast and costly program of expansion of the main treatment plant at a total cost in excess of $27.0 million, of which $13.5 million is already completed and in partial operation. The District has not dodged its responsibilities in the pollution abatement program. Instead, it has proceeded on its own initiative without waiting for threats of action by the State pollution control agency and without assurance of financial assistance through Federal grants.

Nor is this approach one of recent precedent as far as Minneapolis and St. Paul are concerned. In 1938, the District and the Twin Cities placed in operation a 52 mile system of interceptor sewers and a primary treatment with a total cost of $15.7 million. The plant was the first treatment plant serving a major population center on the Mississippi, Missouri and Ohio Rivers. Nearly thirty years later, several of the major cities on the Mississippi River and Missouri River are only now installing primary treatment facilities. Over this same period, the District has spent an amount of $21.3 million for operation and maintenance of its treatment plant.

STUDIES AND INVESTIGATIONS BY MSSD

With an awareness of the potential sanitation and water pollution problems, the Board of Trustees of the Minneapolis-Saint Paul Sanitary District authorized in 1956 an extensive five year program of research and investigation of the metropolitan area's sewage works requirements.

During the period from 1956 to 1961, at a cost of one-half million dollars, studies were conducted to determine the most economical and satisfactory solution to the sewage problem of the metropolitan area. In addition to the development of a long-range sewage works plan, several related aspects were investigated which had a direct and significant bearing upon the recommended solution. Two reports involved a statistical summary of the past characteristics of the Mississippi and Minnesota Rivers, the capacity of the rivers to assimilate pollution, and the necessary degree of treatment to maintain dissolved oxygen levels or to meet certain river water quality objectives. Another report presented the basic engineering plans and estimates of cost of alternate sewage works projects for an extensively enlarged area of service as well as an evaluation of the adequacy of the existing interceptor sewer system to convey flows under anticipated future conditions.

Three separate reports were prepared relative to the apportionment, allocation and distribution of the costs of the sewage works projects among the component municipalities.

Thirty-six months of pilot plant and large scale demonstration plant tests were conducted under field conditions of various treatment processes which could be utilized in the expansion of main treatment works.

Another of the engineering reports covered the establishment of a treatment plant design basis and recommendations for the incremental enlargement of the main sewage treatment plant at the Pig's Eye Lake site.

SEWAGE TREATMENT PLANT EXPANSION

Upon the completion of preliminary investigation of sewage treatment requirements, the Minneapolis-Saint Paul Sanitary District Board of Trustees authorized in 1961 a major expansion program of the Pig's Eye Lake Sewage Treatment Plant to accomplish secondary treatment. The plant expansion was designed to serve the two central cities and the 24 suburbs served by the system (in 1962) based upon this service area's anticipated growth and development to the year 1980. The general design basis was as follows:

Type of Process - High-Rate Activated Sludge

Sewered Population - 1,545,000 Persons

Industrial Population Equivalent - 1,065,000 Persons

Total Population Equivalent - 2,610,000 Persons

Average Annual Flow Thru Plant - 218 million gallons per day

Removal of Suspended Solids - 85 percent

Removal of Pollutional Load With Basic Treatment Process (BOD) - 75 percent

Control of Effect of Pollutional Load by Supplemental Methods - As required to meet river water quality standards

Destruction of Bacteria as Measured by Coliform Indicator Organisms - 99 percent

The secondary treatment facilities form one part of a long-range plan for the incremental expansion of the District plant. The site and arrangement of the treatment units has been adapted for the future expansion of the plant to a capacity of more than 400 million gallons per day on the basis of the High-Rate Activated Sludge Process or the Step Aeration Process.

At the time of the design of the treatment plant expansion, no river water standards existed for the

Mississippi River in the vicinity of Minneapolis and St. Paul. Accordingly, the design was based upon a statement of requirements issued by the Minnesota State Board of Health in 1928. The statement provided essentially that the pollution of the river should be restricted to such an extent that the public health hazard would be reduced to a minimum, that the health of livestock would not be endangered, that the public nuisance would be eliminated, and that fish life in the river, at least below the mouth of the St. Croix, would not be jeopardized.

Classification and standards for the Mississippi River subsequently adopted by the Minnesota Water Pollution Control Commission in March of 1963, after the commencement of the construction of the treatment plant expansion, provided for the maintenance of certain minimum dissolved oxygen levels in the river water and a restriction upon the concentrations of other contaminants. Compliance with these standards will be accomplished with the High-Rate Activated Sludge process plant as designed, with the occasional employment of supplemental methods. Supplemental methods which have been investigated and appear promising include effluent aeration, river aeration, and effluent chlorination.

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TREATMENT PLANT CONSTRUCTION

Construction of the plant addition began in 1962 with the award of a contract for the relocation of more than one mile of the main line tracks of the Chicago Great Western Railway Company in order to provide a site for the secondary treatment works. Twenty-six more construction contracts have been awarded since the first one, totaling over $24.0 million. Of the contracts which have been awarded, twenty-two are essentially completed, including the major contracts for secondary aeration and final sedimentation tanks and the air compression system.

Listed below are the major contracts, the approximate amounts, and the present stage of completion of the plant expansion program.

Project	Approximate Cost	Percent Completion
Railroad Relocation	$ 109,000	100
Site Clearing and Demolition	145,000	100
Garage and Warehouse	187,000	100
Aeration Compressor Equipment	395,000	100
Dike Construction	199,000	100
Aeration Tanks-Gallery-Final Tanks	8,263,000	100
Diesel Electric Generator	85,000	100

Project	Approximate Cost	Percent Completion
Boiler Room and Shop Addition	$ 414,000	100
Compressor Building	2,031,000	100
Administration Building	566,000	100
Instrumentation and Control System (Ph.1)	216,000	100
Sludge Vacuum Filtration Equipment	700,000	75
Sludge Incineration Equipment	2,122,000	85
Filtration and Incineration Building	5,036,000	75
Chlorine Contact Channel	312,000	100
Sludge Concentration Tanks	343,000	100
Screen and Grit Chamber Modifications	839,000	50
Sludge Thickening Tanks	2,202,000	10
Miscellaneous	100,000	100
Total	$24,264,000	

The progress that the Minneapolis-Saint Paul Sanitary District has made is evident from the above tabulation. Sludge disposal works are scheduled for completion in the fall of 1967. With the completion of the remaining construction projects, the construction cost is estimated at approximately $27.0 million.

TREATMENT PLANT OPERATION

Secondary treatment facilities were initially placed in operation in April 1966 and are presently in partial operation pending completion of the enlarged sludge disposal works. During the summer of 1966, the secondary plant was operated over a three-month period at removal efficiencies in excess of the design basis. The limited operation of the secondary facilities to date has demonstrated that the new works are fully capable of treatment in compliance with the design removals and that the sewage and industrial wastes of this metropolitan area are amenable to treatment by either the High-Rate or Conventional Activated Sludge Process.

COMMENTS ON GENERAL RECOMMENDATIONS

Relative to the classification and water uses proposed in Item No. 2 of the General Recommendations, Enhancement of Water Quality, for the segment of the Mississippi River downstream from the Minneapolis-Saint Paul Sanitary District treatment plant, the District's position is one of limited concurrence. Water uses enumerated for this section of the river correspond in principle to the classification and Standards of the State of Minnesota Water Pollution Control Commission. The State designation of water uses are those which may be realistically obtained downriver from a major center of population and industrial activity.

To achieve and maintain the enhancement of water quality and the proposed water uses for the Mississippi River between the District plant and Lock and Dam No. 2, the District endorses the prevailing Standards of the State of Minnesota Water Pollution Control Commission as adopted in 1963 and opposes the more restrictive Federal Water Pollution Control Administration recommendations. The existing State standards are reasonable, adequate, and consistent with present and possible future downstream water uses.

Further, the District urges the extension of the zone of lower DO requirements downstream from Lock and Dam No. 2 to the mouth of the St. Croix River.

Item No. 3 of the General Recommendations, Treatment of Municipal Wastes, establishes a minimum level of treatment efficiency for all plants regardless of their location or the concentration or character of the influent waste.

In the Minneapolis-Saint Paul Metropolitan Area situation, where major rivers course through the highly populated areas, it is only reasonable that a lower level of treatment be required at a plant site downstream from the center of population. Imposing a uniform level of treatment, as measured by the conventional indices, for all plant locations fails to recognize the significance of the inability of the secondary biological treatment processes to remove various of the newer chemical contaminants.

Implementation of this restrictive feature of the recommendations will saddle the Minneapolis-Saint Paul Sanitary District with the financial burden of another expansion of the main treatment plant before it is necessary. A preliminary investigation indicates that to meet this effluent quality on a continuous basis will necessitate the employment of the Step Aeration Process at the District treatment plant. An additional expenditure of approximately $10.0 million will be required for the first phase of these treatment and sludge disposal works, based upon a design period and loading which corresponds with the plant expansion presently underway. In addition to the large capital cost involved, higher operating costs will be incurred to the extent of $300,000 per year.

Adoption of this measure precludes the employment of supplementary methods of treatment such as heavy chlorination and aeration of the river to restore oxygen resources, which our studies have shown to be decidedly more economical than conventional processes to meet short duration treatment requirements.

More than one interpretation can be made of the intent of the General Recommendations relative to the application of the coliform guide value of 5,000 per 100 ml required by Guide B. On the basis of the wording maximum concentration "for any one sample," the proposed limitation is unreasonably restrictive and actual compliance would be virtually impossible. River water upstream from Minneapolis at the water intakes does not consistently meet this requirement. Obviously, the intent of the report is "average" concentrations as stated in the case of Guide C - Source of Water Supply.

Chlorination on a year around basis as included in the report recommendations is not consistent with the stated river water uses of limited body contact recreational activities and commercial shipping. Both of these activities are limited by the climate and the resulting ice cover to no more than one-half of the year. Chlorination at the heavy dosage required to maintain the coliform Guide B level during winter months causes a substantial expenditure toward pollution abatement without accomplishment of any real benefit.

The cost of effluent disinfection is nearly proportional to the duration of its employment. Our estimate is that the continuous chlorination cost will be approximately $360,000 per year while the cost of four months of chlorination will be approximately $150,000. It is the Minneapolis-Saint Paul Sanitary District"s position that the expenditure for chlorination outside of the recreational season is not justified in terms of the benefits to downriver users. Chlorination of the plant effluent to these low levels of coliform would be negated by overflows from the combined sewer system at times of heavy rainfall. Even with complete separation of the sewers, there will be heavy coliform contaminations from the runoff discharged from the storm sewers.

COMMENTS ON SPECIFIC RECOMMENDATIONS - MISSISSIPPI RIVER

The Minneapolis-Saint Paul Sanitary District is definitely opposed to this three sentence paragraph because of its implications and effect on the best and most economical solution of this Metropolitan Area problem. It relates to conditions in the Hasting's pool, and recommends a minimum dissolved oxygen level of 3.0 mg/l under stated minimum discharges of the river in this section. The paragraph of the recommendations continues - "To attain this, combined wastes loads from these sources should not exceed 68,500 pounds/day of 5 day BOD". A maximum suspended solids loading of 85,500 pounds/day is also recommended. The purpose of the inclusion of this paragraph appears principally to be related to the maintenance of dissolved oxygen levels in this pool.

The effect of this provision is to require a higher degree of treatment in this section of the river than in other reaches. For example, a minimum of 80 percent BOD and suspended solids removal is required for other sections, but the limitation of 68,500 pounds/day of 5 day BOD (equal to 400,000 population equivalent) would require a BOD removal of 90 percent in 1980 and 94 percent in the year 2000. This section of the river by its very nature, downstream from the population center and flowing through highly industrialized areas, should allow for a lower quality of water when compared to other sections, as the present Minnesota Water Pollution Control Commission's Standards provide.

The District requests the elimination of this paragraph from the recommendations for the following additional reasons:

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1. Whereas the quality standard of 3 mg/l of dissolved oxygen under certain stated flows, and the 80 percent BOD removal are "judgment" selections, the stated allowable effluent pollutional limit of 68,500 pounds of BOD per day (400,000 population equivalent) is a calculated value based on a large number of assumptions and technical uncertainties which go beyond the other standards and requirements. In addition to uncertainties in the mathematical calculations, assumptions had to be made in a number of factors which affect river assimilative capacity to arrive at this arbitrary number. These include among others, temperature, DO and BOD levels of incoming rivers, channel depth, reaeration and deoxygenation constants and rates, river discharges, and water supply extractions. Many of these are dependent on future decisions and actions of groups concerned with this problem.
2. One of the assumptions that was made in the calculations was that the plant effluents would contain zero dissolved oxygen. This is a very conservative assumption as shown by Progress Report 165-S prepared as part of University of Minnesota -

Minneapolis-Saint Paul Sanitary District cooperative research program. This report shows that under summer conditions the existence of 4 mg/l of DO in the plant effluents would increase the assimilative capacity of the river at this point by 10 percent (7100 lbs. of BOD = 42,000 population equivalent). Effluent sampling has indicated that 4 mg/l is a reasonable expectancy by natural means. This could be augmented by mechanical aeration of the effluent to further increase the receiving capacity, to values double the above if the effluent were saturated. The above is a significant item and shows the effect of but one factor on which assumptions were made.

3. The employment of this arbitrary "rule" completely negates the many auxiliary methods which are available and which have been used in the U. S. and foreign countries to augment DO resources. In addition to "in-plant" effluent aeration and chlorination for BOD removal and retardation, the river's resources can be augmented by river aeration at hydro-plants, mechanical surface aeration and aeration at dams by low flow augmentation. Many of these methods can accomplish the same objective-

maintaining minimum DO levels at the critical point - much more economically than the seemingly simple expedient of requiring a higher degree of treatment.

4. The report refers only to Minneapolis-Saint Paul Sanitary District and South Saint Paul effluents in setting the 400,000 population equivalent value. The only reference to other pollutional loads is that the several lower industrial effluents to the Hasting's pool are small (1 or 2 percent). This is not likely to be so in the future. Are they to share in this allowable limit, or are they neglected as a pollutional element?

5. A further question arises as to the application of the above limit in the apportionment of this assimilative capacity. The present major industrial load is from an industry with a large seasonal variation in load, with usual low loads in August and February. Who now is going to apportion this capacity? The calculations to arrive at pollutional loads and assimilative capacity are based on average annual mass loads. Growth, particularly of industries which are a key to this pool, is time dependent.

6. In the matter of this apportionment, the report does

not come to "grips" with the key economic and legal question, i.e., are all users of this apportioned capacity to provide the same quality of effluent in mg/l or are they to provide the same degree of treatment in percent? The decision, in this case is of great importance.

7. The Board of Trustees of the District and its engineers have consistently held to the judgment that the best solution to the water pollution problem of this Metropolitan Area was in collection and treatment at one or more plants downriver of the centers of population. The use of this arbitrary capacity limitation of 400,000 population equivalent, without provision for the use of augmenting alternatives, encourages those who propose upriver plants, to the detriment of water quality through the centers of population.

8. In conclusion it is recommended that this paragraph be stricken because it has no sound basis, is indefensible, and is likely to lead to protracted litigation.

SCHEDULE OF REMEDIAL PROGRAM

Although not acknowledged in the FWPCA report, the Minneapolis-Saint Paul Sanitary District began the remedial program toward further control and abatement of pollution in 1962 with the commencement of a $27 million program of expansion at the Pig's Eye Lake treatment plant. As indicated previously in this statement, the facilities for the High-Rate Activated Sludge Process secondary treatment are completed and are in partial operation. Construction is well under way of the sludge disposal works which accompany the expanded treatment units.

While the secondary treatment plant expansion has been fully utilized for test periods and the District is assured that treatment will be accomplished at least equal to the design basis, there has been no opportunity for an evaluation of the effect of the much improved levels of treatment on the river water quality. Until a complete evaluation is made of the full plant performance, the necessity for further expansion is not apparent.

Based upon the accomplishments of the Minneapolis-Saint Paul Sanitary District and in recognition of the status of its plant expasion program, the District requests a modification to the Schedule of Remedial Program to permit a full evaluation of the effect of new plant on the Mississippi River before proceeding further with any additional improvements.

SUMMARY

1. Introduction

The Minneapolis-Saint Paul Sanitary District has a direct and predominant interest in the Federal Water Pollution Control Administration report on "Summary and Pollution Abatement Recommendations." The District has both a responsibility to control and abate water pollution through the provision and operation of sewage treatment works and a responsibility to provide economical sewage service to more than one million customers.

While the District endorses reasonable river water quality standards which are commensurate with downriver water uses, it opposes recommendations or standards which fail to consider the cost of treatment in terms of the benefits attained.

2. General Progress Toward Pollution Abatement

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The FWPCA report gives the impression that the District has no active program for the abatement of pollution. The fact is that the District has made real and significant progress toward the accomplishment of a pollution control program which is compatible with the recommendations of the FWPCA report.

During the period from 1956 to 1961, at a cost of one-half million dollars, comprehensive investigations and studies were conducted by the District to determine the most economical and satisfactory solution to the sewage problem of the metropolitan area.

In 1962, the District commenced the construction of a $27 million program of expansion of the main treatment plant to accomplish secondary treatment with the High-Rate Activated Sludge Process. Twenty-seven construction contracts totaling over $24 million have been awarded. Twenty-two projects, at a cost of $13.5 million, including the secondary aeration and final sedimentation tanks, are already completed and in partial operation.

Secondary treatment facilities were initially placed in operation in April 1966 and are presently in partial operation pending completion of enlarged sludge disposal works. The operation of the secondary facilities to date has demonstrated that the new works are fully capable of treatment in compliance with the design basis.

These facts show that the District has not dodged its responsibilities in the water pollution control program. Instead, it has proceeded on a vast and costly program of treatment plant expansion on its own initiative, without waiting for threats of action by the State pollution control agency and without assurance of financial assistance through Federal grants.

I will say that the State Water Pollution Control Commission has suggested that we should be thinking about expanding the plant and studying it for the future, so we did do that. That was a verbal statement on their part. We have also since received a Federal grant. After applying for three years in a row, we finally received a Federal grant on the facility now under construction.

3. Comments on General Recommendations

To achieve and maintain the enhancement of water quality and the proposed water uses for the Mississippi River between District plant and Lock and Dam No. 2, the District endorses the prevailing Standards of the State Water Pollution Control Commission as adopted in 1963 and opposes the more restrictive FWPCA recommendations. The existing State Standards are reasonable, adequate, and consistent with present and possible future downstream water uses.

Now, I understand there is some question whether these figures are going to mean anything from the discussion this morning. That shows the difficulty we have had in only the two weeks that we have had this report, and only a summary report. It has been impossible to completely reevaluate the impact of the Standards.

Item No. 3 of the General Recommendations, Treatment of Municipal Wastes, establishes a minimum level of treatment efficiency for all treatment plants, regardless of their location or the character of the influent wastes. Implementation of this restrictive feature of the recommendations will saddle the District with the financial burden of another expansion of the main treatment plant before it is necessary. A preliminary investigation indicates that to meet this effluent quality on a continuous basis will necessitate the employment of the Step Aeration Process at the District treatment plant. An additional expenditure of approximately $10 million will be required for the first phase of these treatment and sludge disposal works, based upon a design period and loading which corresponds with the plant expansion presently under way. In addition to the large capital costs involved, higher operating costs will be incurred to the extent of $300,000 per year.

Chlorination on a year-around basis as included in the report recommendations is not consistent with the stated river water uses of limited body contact recreational activities and commercial shipping. Both of these activities are limited by the climate and the resulting ice cover to no more than one-half of the year. Chlorination at the heavy dosage required to maintain the coliform Guide B level during winter months will cause an extra expenditure of approximately

$200,000 per year toward pollution abatement without accomplishment of any real benefit. There are no public waters to protect below it. It is the Minneapolis-Saint Paul Sanitary District's position that the expenditure for chlorination outside of the recreational season is not justified in terms of the benefits to downriver users.

4. Comments on Specific Recommendations -- Mississippi River.

The District is definitely opposed to the Specific Recommendations - Mississippi River, because of the implications and effect on the best and most economical solution to this metropolitan area problem. This provision of the recommendations limits the combined waste load of the effluents of the District and South Saint Paul treatment plants to 68,500 pounds/day of 5-day BOD and 85,500 pounds/day of suspended solids.

The effect of this provision is to require a higher degree of treatment in the Hastings pool than in other upriver reaches of the Mississippi River. Instead, this lower section of the river, downstream from the population center and flowing through industrialized areas, should allow for a lower quality of water. Further, the employment of this arbitrary rule completely negates the many auxiliary methods that are available to augment DO resources at less cost than conventional treatment, and I should add, during periods of unusually low flow.

The Board of Trustees of the District and its engineers have consistently held to the judgment that the best solution to the water pollution problems of this metropolitan area was in collection and treatment at one or more plants downriver of the centers of population. The use of this capacity limitation encourages those who propose upriver treatment plants, to the detriment of water quality through the centers of population.

In conclusion, it is recommended by the District that this paragraph be stricken because it has no sound basis, is indefensible, and is likely to lead to protracted litigation.

5. Schedule of Remedial Program

Although not acknowledged in the FWPCA report, the District began the remedial program toward further control and abatement of pollution in 1962 with the commencement of a $27 million program of expansion at the Pig's Eye Lake treatment plant. The facilities for the high-rate activated sludge process secondary treatment are completed and in partial operation and construction is well under way of the accompanying sludge disposal works.

Based upon the accomplishments of the Minneapolis-Saint Paul Sanitary District and in recognition of the status of the plant expansion program, the District requests a modification to the Schedule of Remedial Program to permit a full evaluation of the effect of the new plant on the Mississippi River before proceeding further with any additional improvements.

In other words, we would like to complete our present plant expansion, evaluate its performance and its effect on the river, and redetermine the many assumptions that have been made on the river, such as the effect of effluent on the river, so that we will then be in a better position to know what we would have to do to comply with any further requirements that may be established for the river standards.

MR. STEIN: Thank you, Mr. Mick.

Are there any comments or questions?

DR. JELATIS: Mr. Chairman?

MR. STEIN: Yes, Dr. Jelatis.

DR. JELATIS: I feel that I have to comment on this, because we have testified at previous hearings as being from a downriver community, that we would like to see the highest possible standards established and maintained in the sections of the river above us which affect the river quality below the plant effluents all the way down into Lake Pepin.

The Summary Report points out that the river bottom conditions in Lake Pepin are exclusively organic sludge. There is some sand mixed with the organic sludge in a portion of the river -- I believe it is near Lock and Dam No. 3 -- perhaps because there is more rapid river flow.

Now, we very much appreciate the improved treatment facilities that are being put in by the Minneapolis-Saint Paul Sanitary District, but we cannot escape the feeling that these facilities have always been put in on the basis of crisis, and a little bit too late, not properly anticipating the future demands.

As to the statement of costs, what is the population area served now by the Twin Cities Sanitary District, the number of people?

MR. MICK: At present we have one and a quarter million persons connected to the plant.

DR. JELATIS: I believe in the main report you point out that the sewered population is about one and a half million. This is considering growth through 1980?

MR. MICK: Yes.

DR. JELATIS: Well, just commenting on the statement you make that it has proceeded on a vast and costly program of treatment plant expansion without financial assistance, this is very fine, but when you consider this on a per capita basis,

$30 million even over one and a half million population is about $20 per capita.

MR. MICK: We don't wish to make the point that that is an excessive cost for our expansion.

DR. JELATIS: Well, I would just like to point out that many smaller communities with much smaller populations of 10,000 to 20,000 have been spending up to $150 or $200 per capita for construction of plants, and we feel that perhaps until the per capita expenditures for sewage treatment are at a higher level than what you propose, that it is not an inordinate cost to a relatively affluent metropolitan district.

MR. MICK: Your figures of $150 to $250, I believe were based on dollars per capita for plants in smaller towns, probably including the sewer system. If we included the sewer system in the Twin Cities, the expenses per capita would be somewhat similar.

We do not really oppose the standards at all, because it is just a question of whether the Federal or the State are the least restrictive. They are both compatible.

Also, I would like to point out that the sludge deposits that you have mentioned are the result of many years of primary treatment only both in our plant and not much more than that in the South St. Paul plant, and both our plant and the South St. Paul people are planning extensive improvement, and will be required to make extensive improvements as a result of this survey, so that we feel that as soon as our plant goes into full operation and the South St. Paul plant completes their proposed program, it will no longer be accumulating organic deposits. It will take a few years to get rid of them.

However, I remember back when our primary plant went into operation in 1938, there was an extensive sludge deposit in the area of St. Paul, and it had been called a cesspool by some. It was not true. It was not that bad, but it was a cesspool before any treatment was installed at all. We have motion pictures to prove that. We have sludge coming out of the river and the gas lifting the sludge deposits, but that condition cleared up within one year after our primary treatment went into operation, so you will not be bothered by those sludge deposits for a long period of time after the additional treatment is installed.

DR. JELATIS: Yes. We understand certainly that there has been improvement and are grateful for the improved facility you are putting in, but I think there is also no question that the assimilative capacity of the river does not increase in keeping with population growth, and as the population growth continues to expand, and it is projected in the year 2000 there may be three million people in this area.

MR. MICK: We recognize in the main body of this statement that the requirements of the survey, at least, if they are adopted by the conference, would require that we put in 90 percent treatment by 1980 and 94 percent by the year 2000.

DR. JELATIS: Thank you.

MR. STEIN: Are there any other comments or questions?

MR. WILSON: Mr. Chairman?

MR. STEIN: Yes.

MR. WILSON: I would like to repeat something that I said yesterday, and that is that provision for anticipation of future population growth is going to depend on many things. And this is primarily because with reference to the future population growth of the seven-county metropolitan area, in principle, increases in that population are not taking place within the central cities of St. Paul and Minneapolis, which now compose the Minneapolis-St. Paul Sanitary District.

The only authority that that District has for taking care of the sewage of these rapidly expanding suburbs is by contracts, and that is a very unsatisfactory method of financing the construction of the very expensive interceptor sewers and other works that must be provided for in advance of the actual population growth in order to avoid future overloading. For that reason, recognition must be given to the fact that the last three Legislatures have disregarded this problem.

Instead, the Legislature of 1961 created the North Suburban Sanitary Sewer District within this metropolitan area, composed of six communities north of the Twin Cities, with a then population, I think, of nearly 60,000, which is rapidly increasing. The creation of this District within the area that should have been included in an enlarged metropolitan district has created many complications.

This District has been literally a thorn in the flesh of the Minnesota Water Pollution Control Commission (Laughter). The first thing it did after its creation was to contest the authority of the Minnesota Water Pollution Control Commission and the State Board of Health, in which the North Suburban District lost out. The Court held that the District was subject to the authority of the Minnesota Water Pollution Control Commission, as well as the State Board of Health, in the matter of requirements for compliance with the construction of a sewage treatment plant and other facilities.

The result of that was that the North Suburban District proceeded with the construction of its local sewerage system, for which there was extremely urgent and immediate need, and nobody would quarrel with the importance of getting ahead with that project as rapidly as possible.

The issue was precipitated later, as I have already mentioned, over the standards established by the Water Pollution Control Commission when the North Suburban District wanted to construct a sewage treatment plant with an outlet below the Minneapolis water intake on the St. Anthony Falls pool, and that is what has tangled the Water Pollution Control Commission up in litigation, now on the way to the Supreme Court. As I said before, it probably will take another year to get a final decision.

This is just an example of the way the Minnesota Legislature has trifled and temporized with this program, instead of doing what it should have done in 1961 in accordance with the recommendations of both the Water Pollution Control Commission and the Board of the Sanitary District, enlarging the Sanitary District so that it could have dealt adequately with these expansion programs.

They delayed action on that, and action is still being awaited at this session of the Legislature that will provide an ultimate solution to the important problem that Mayor Jelatis has called attention to -- that is to say, anticipating the future needs before a crisis occurs.

MR. MICK: I might further comment on Mr. Wilson's remarks to the extent that when we proposed the design for the plant expansion, the only authority we had was to serve the two central cities and the 24 suburbs that were actually under contract at that time.

Presently we have 39 under contract, and we still have no authority to design any facilities. The plant is designed for 1980 to expect a load from those 24 suburbs. We now have 39 connected to them. We would have to expand the plant presumably before 1980.

MR. STEIN: Thank you. I have three comments. The first one I am going to make with trepidation, Mr. Wilson. I have been coming here for years and hearing about the need for the Legislature to set up this central metropolitan district, and I have followed some of the controversy, etc. What I find here is the same kind of situation we have been finding in recent years -- five or six different bureaus competing in a short legislative session.

It seems to me, from an outsider's point of view and having had a considerable amount of experience with State Legislatures as well as Federal legislation, that if you are going to get a bill like this through one of the first steps you have to take is to get the vast majority of the people behind one measure that they can agree on and let it go.

With all of these bills before the Legislature on a relatively complicated issue, I don't know that it is productive to put the blame on the Legislature. What do you get? You go through another session where they are adjourned, and we don't have the mechanism.

My next comment on another field is, I would say, Mr. Mick, that you have stated you don't know whether the requirements that we would have or the ones that the State has are more lenient or not; you did not get the report in time; and then you say on this issue that getting the report six months in advance wouldn't help resolve it. What has to be done is to have a computer arrangement with past records put into a machine.

It is not readily apparent which is the more restrictive, and that is what we hope we are going to do. I think you have analyzed the report, but this short time had nothing to do with this analysis. Unless you had all these records and computer time, I don't think you would have come up with the answer either.

MR. MICK: We did some computer work, too, on that analogy, but we didn't have time to complete it.

MR. STEIN: Yes. Now, I understand all your points, but on one of those, what do you mean by the statement that there are three methods now available to augment the dissolved oxygen resources at less cost?

MR. MICK: You see, our river is rather -- I don't know whether it is unusual or not, but it has an extreme range of flow, and we have some low flows that occur once in a long time.

MR. STEIN: Yes.

MR. MICK: And to require a complete installation of treatment, to take care of these extreme low flows, is much more expensive than to provide some auxiliary mechanism that you temporarily use. You might call it a super-chlorination of the effluent, which some data done for us by the University of Minnesota in our research agreement with them indicated that we could obtain about two parts per million BOD reduction for every part of chlorine that we added, and that might tide us over some of these critical low periods.

Another method is direct aeration of the river, or a dam, such as we have worked on, which I believe has been mentioned here before, and aeration through hydraulic power installations, and so forth.

MR. STEIN: I see what you mean.

I might say, at least with the experience that I have had throughout the country, the results of super-chlorination or aeration in a river have not been too successful.

We do a fairly good job in the pulp and paper industry with aeration in lagoons, but that aeration in the river is kind of like putting bubbles in a fish tank. They are dissipated. In a few seconds they come up. Some people have told us that we do more good by breaking the surface tension and letting in surface oxygen than by putting air into the river.

So far we have not been very good at this kind of thing.

MR. MICK: We have done some work on that in the University on a pilot plant scale.

I understand the Sanitary District of Chicago is installing a number of aeration points like that. They have had it in their budget, anyway.

MR. STEIN: Well, you know, dealing with the Chicago situation again, what you have is a real slack water canal and, in effect, a lagoon.

As I say, aeration has worked in a lagoon, but when you deal with a river with a natural bottom and a flow, this is part of the art I don't think we have mastered yet.

MR. MICK: It is the periods of extreme low flows that I am speaking about. The river above Hastings Dam is practically like a lake at very low flows.

MR. STEIN: Thank you.

Are there any comments or questions?

MR. WILSON: Mr. Chairman?

MR. STEIN: Yes, Mr. Wilson.

MR. WILSON: I should like to add another word in view of the Chairman's comments on the responsibility of the Legislature.

I think it is fair to say that the Minnesota Water Pollution Control Commission has done its utmost to establish and maintain, against attack, the highest standards that can be justified on the facts for the section of the river which is most important in this matter in this metropolitan area.

I think it is also fair to say that this Minneapolis-St. Paul Sanitary District has done its utmost within the limits of its financial and legal capacity.

It would be utterly futile for the Minnesota Water Pollution Control Commission, or, for that matter, the Federal Water Pollution Control Agency, to issue any orders to this Twin Cities Sanitary District to do any more than it has done, because it would be beyond its financial and legal capacity.

Perhaps the Federal agency might try to issue orders to the Minnesota Legislature. How far they would get with that I do not know.

But, as I said yesterday, the key log in this jam is in the lap of the Legislature. There is no way to prevent a multiplicity of bills. Anyone who has legislative experience at all knows that. Every member of the Legislature, of which we have one of the largest in the country, is privileged to introduce a bill on every subject.

The features of these sanitary district bills with respect to representation and financing are extremely controversial, and the settlement of those controversies is absolutely in the hands of the Legislature.

Neither the Minnesota Water Pollution Control Commission nor the board of trustees of the Sanitary District can decide or settle those questions of who is to have representation on the board of trustees of an enlarged Sanitary District, or how that District is to be financed.

Those questions are solely within the power of the Legislature and that is where the responsibility lies.

MR. STEIN: Maybe we will let it stay there.

Let me try this once again, Mr. Wilson. I hope I am going to be very short.

I am not talking about orders to the Legislature. As a matter of fact, this is one thing I think the statements here can bear out, and the record will show who is making the exhortation about the Legislature. Nor did I talk about any man or member of the Legislature having his authority restricted in introducing a bill.

What I am saying is that the Twin Cities area is like any other city. In order to get one of these districts through, you have to get a coalescing of the citizens of the area around a specific proposal, complicated as it is.

This was so in Chicago; it was so in Kansas City; it was so in St. Louis; it was so in Seattle; and I suspec before you get a viable district here along the lines you are saying, this is so here.

I know that the job of getting people together is not an easy one, but this is a prerequisite, and the way to do this is not by ordering anyone, but by convincing them. It seems to me what may be lacking in this area is a single plan or bill where you have the majority of the people supporting and recognizing that this is the bill that you want.

I have found, in the last analysis, that the public officials, including us, generally give the people about what they want.

Are there any further questions?

(No response.)

MR. STEIN: If not, Mr. Smith, would you call for your next statement?

MR. SMITH: I would like to call on the City of South St. Paul.

STATEMENT OF JOHN P. BADALICH, CITY ENGINEER, CITY OF SOUTH ST. PAUL, MINNESOTA

J. P. Badalich

MR. BADALICH: For the record, my name is John Badalich, City Engineer, City of South St. Paul.

Our purpose in appearing at this particular conference is not to argue the merits or demerits of this particular summary, but we would like to bring to the attention of the conferees the progress the City of South St. Paul has made in the past two years.

Since the previous report of the City of South St. Paul to the conferees of Minnesota, Wisconsin and the then Federal Public Health Service at a similar pollution conference held in St. Paul in February of 1964, the City of South St. Paul has continually since that date recognized its responsibility with respect to sewage collection and treatment by initiating and completing detailed engineering studies for further improvements to the sewerage system and the Municipal Sewage Treatment Plant. Following the completion of these engineering studies and plans and specifications for stage construction of these improvements, the city has also initiated steps for immediate construction of these improvements which will be brought out in further detail in this report.

At this point, I would like to interject with reference to some of the remarks of Mr. Wilson yesterday, and also for the record, that the City of South St. Paul also on its own initiative, back in 1940, constructed a municipal sewage treatment plant for the treatment of municipal and packing house wastes. This was the year following the construction of the Minneapolis-St. Paul Sanitary Plant.

Regressing for a moment and after the completion of a waste stabilization pond that further treated the effluent from the main sewage treatment plant, which was constructed in 1963, a very significant increase in the degree of treatment was accomplished.

Operating records from February 1963 through March of 1966 showed that the South St. Paul Sewage Treatment Plant processed approximately 12.7 million gallons of sewage daily, consisting of an average flow of 14.15 mgd for weekdays, and 8.70 mgd for Sundays and holidays.

The overall average removal in pounds of BOD was increased to 84.3 percent. The overall removal of suspended solids was an average of 90 percent. From these results it is shown that an overall efficiency in our sewage treatment operation has increased well over 50 percent. In BOD removal alone through use of the stabilization pond, the BOD loading to the river decreased in excess of 60 percent over the amount previously discharged from the main plant.

The Federal Water Pollution Control Administration publication which we are reviewing this morning indicates on Table 2, based on data collected during the survey period from

June 1964 to October 1965, that the South St. Paul Sewage Treatment Plant showed a removal efficiency of 79 percent in BOD and an 89 percent removal in total suspended solids.

Data recorded just recently, following volumetric reductions in sewage and greater overall efficiency at the sewage treatment plant, indicated an average BOD removal of 87.2 percent and a suspended solid removal of 95.3 percent. This data is attached to this report.

On October 19, 1964, following several meetings with the Minnesota Water Pollution Control Commission and the engineering staff of the State Board of Health, the City engaged the engineering firms of Banister Engineering of St. Paul and Greeley & Hansen of Chicago, to make a preliminary study and report of the necessary improvements to the municipal sewage treatment facilities of the City. This very complex report entitled "South St. Paul, Minnesota Report of Sewerage and Sewage Treatment" was completed by the aforementioned engineering firms on February 16, 1965. This preliminary engineering report was presented to the City Council, the MWPCC, and the packing industries for their review and comment.

This engineering report recommended (1) improvements to the existing treatment facilities so as to provide capacity for present and estimated future flows and organic loads; (2) recommended additional sewage treatment facilities to meet effluent standards as set forth by the MWPCC; (3) recommended sludge disposal facilities to provide sanitary and nuisance-free disposal of sewage solids and paunch manure; and (4) recommended improvements to the intercepting sewer facilities so as to separate storm water runoff from industrial sewage. The estimated cost of these improvements based on today's price index is $7,606,000.00. After a review of this report was made by all concerned, the MWPCC at their March 26, 1965 meeting, commended the City of South St. Paul on their progress on further attacking the problem of water pollution. The Commission at this time indicated that the City begin preparation of final plans and specifications for the proposed first stage improvements and also suggested that we apply for a Federal grant under Public Law 660 after July 6, 1965.

In the meantime, this report was being thoroughly studied by the packing house interests of the City and the impact of this report would have on these industries being the major contributor to our total sewage load.

Following the review of this report by the major wet industries, these industries immediately initiated studies on in-plant improvements in their own facilities in order to reduce volume and strength of their wastes. The effect of this report was such that in the period of a few weeks, thru conservation of water within the packing house complexes, a volumetric reduction of 2 million gallons per day in sewage effluent was achieved, along with a significant reduction in BOD.

The industries also employed the firm of Toltz, King, Duvall, Anderson and Associates of St. Paul (TKDA) to make an engineering study as to the possibility of pre-treatment of the packing house wastes and other in-plant methods of reducing flow and strength of sewage discharged from their facilities.

It was therefore agreed by all concerned and also by the Commission, in July of 1965, that the proposed studies for methods of pre-treatment of packing house wastes by TKDA would be completed in November of 1965.

In the meantime, the City of South St. Paul on June 25, 1965, made application to the MWPCC for a Federal grant for sewage treatment improvements under P.L. 660. These improvements, totaling approximately 2.8 million dollars, consisted of the construction of an additional interceptor sewer, lift station and first stage improvements at the sewage treatment plant, as outlined in the "Report on Sewerage and Sewage Treatment, February 1965", by Greeley & Hansen and Banister Engineering Company.

Following the submission of this application to the Commission, we were informed on August 25, 1965, by the Commission that the final priority rating of our application was No. 33 of 38 communities applying for Federal financial assistance. Only municipalities with priority ratings from 1 thru 18 would receive Federal grant.

On or about February 15, 1966, the City received from the industries their report entitled "Report on Waste Water Plant Expansion for South St. Paul, Minnesota," prepared by the engineering firm of TKDA, which report was forwarded to the Commission for review and comment. Following the receipt of the TKDA report and review by the City and our consulting engineers, representatives of the City, including Mayor David G. Hardman and City Attorney Roger Miller, met with the Commission on April 28, 1966, to discuss and formulate the City's program for first stage construction of improvements to the sewerage and waste treatment facilities of the City.

Following this meeting on April 28, 1966, the Commission directed the City, by letter dated May 9, 1966, to proceed under an adopted time schedule for the planning and construction of the first stage improvements, involving construction of a new industrial waste interceptor sewer and additional units at the existing municipal sewage treatment plant.

Therefore, on May 16, 1966, the City Council, by resolution, engaged the consulting engineering firms of Greeley & Hansen of Chicago and the Banister Engineering Company of St. Paul to prepare final plans and specifications for construction of these first stage improvements, said plans and specifications to be completed on or before December 1, 1966.

Also after the receipt of the Commission's letter of May 9, 1966, outlining their recommendations to the City, the packing industries of the City undertook a program within their plants for reducing the volume and strength of wastes discharged to the municipal treatment plant. This program is currently underway and results and tests have shown a significant decrease in wastes being discharged from the packing industries.

In the meantime, the City again applied to the Commission on June 29, 1966 for Federal assistance under P.L. 660. The application was for construction of the waste interceptor sewer and first stage expansion at the sewage treatment plant.

The first stage improvements would consist of constructing a new and separate interceptor of the same capacity as the existing interceptor so as to convey all packing house wastes to the sewage treatment plant for treatment at all times. There would be no by-passing of these diluted industrial wastes to the river during periods of storm water runoff. The sewer construction would then leave available in the existing interceptor sewer additional capacity to receive approximately 5 times more storm water runoff or combined sewage for conveyance to the sewage treatment plant for treatment. Along with this proposed interceptor sewer, a 25 mgd capacity pumping station is also being provided.

The balance of the first stage improvements consists of additions to the existing sewage treatment plant to improve the effectiveness of primary treatment, increase the hydraulic capacity of the plant and improve the overall reliability of our existing installation. These first stage improvements are estimated to cost approximately 2.5 million dollars.

On September 6, 1966, the City was informed by the Commission that the final priority rating of our application was No. 16 of 35 communities that applied for Federal assistance. Only municipalities with priority ratings of from 1 thru 10 would be certified for Federal grant.

Following this turn-down for Federal assistance, the City applied directly to the United States Department of the Interior, Federal Water Pollution Control Administration (FWPCA) and the Department of Housing and Urban Development, but were again turned down for Federal assistance because our project was not approved and certified by the State agency.

Subsequent to this application, the City was informed and encouraged by certain people in the FWPCA to make application to the Federal Government for a demonstration grant pursuant to P.L. 89-753, "Clean Water Restoration Act of 1966," dated November 3, 1966. The project contemplated would encompass to a large extent our first stage improvements and the interceptor sewer and would demonstrate an improved method of controlling the discharge from sewers which carry both storm waters and sewage. This proposal is currently being considered by the FWPCA. The FWPCA is also currently considering a federally sponsored program at the South St. Paul Sewage Treatment Plant, under their grants for research and development, relating to the effective use of chemical treatment, or polymers, in treating heavy industrial or packing house waste, domestic sewage and combined storm-sanitary sewage. Approval on this demonstration grant is expected on or about March 15, 1967.

I would like to observe also that it would then determine the second stage improvement, which would possibly restrict the anaerobic digestion, but with the use of these polymers we might be able to cut this expansion substantially.

Backing up for a moment, the City just recently reviewed the completed plans and specifications for this first stage construction, prepared by our consulting engineers, Greeley & Hansen of Chicago, Illinois and Banister Engineering Company of St. Paul. The necessary revisions are being made to these plans and specifications, following a conference of city personnel and the consulting engineers held on Friday, February 3, 1967.

At a special meeting of the City Council, held on Monday, February 6, 1967 following their regular session, the City Council was brought up to date on the progress and planning of this first stage sewage treatment plant improvement. Also discussed were matters regarding the City's proposed program with the Federal Water Pollution Control Administration. Following this discussion, the City Council passed a resolution regarding the advertising of bids for the construction of these first stage improvements, pending approval of the plans and specifications by the MWPCC.

The resolution of the City Council reads as follows:

"RESOLVED, that the City of South St. Paul transmit to the Water Pollution Control Commission plans and specifications for construction of Phase No. 1 as previously outlined to the Commission for review and recommendation.

RESOLVED FURTHER, upon receipt of approval of plans and specifications, the City shall advertise for bids for the construction of the interceptor sewer portion and subject to Grant approval by the Federal Water Pollution Control Administration of the Department of the Interior of pending Grant application, the City will undertake the construction of the other items of Phase No. 1, subsequent to the approval of the Grant, which approval is expected on or about March 15, 1967."

Adopted by the City Council this 6th day of February 1967.

7 Yeas

0 Nays

Here again, I certainly think from the foregoing facts and figures, that the City of South St. Paul is one unit of government that has clearly demonstrated its desire to meet its needs and responsibility in respect to sewage collection, treatment and disposal.

On the matter of combined sewer overflow, the City of South St. Paul, like the cities of St. Paul and Minneapolis, being one of the older municipalities in the metropolitan area, has a combined sanitary and storm sewer system remaining in approximately 55 percent of the City. Since 1955 and to date, the City has expended in excess of 2.5 million dollars in construction of separate storm sewers in an effort to eliminate the combined sewerage system.

As shown on Page 11 of the Summary report referred to at this conference, a very substantial amount of oxygen consuming contaminants and suspended solids are being discharged annually to the Mississippi River because of this overflow system.

I previously indicated in this report the city's immediate go-ahead on the construction of an interceptor sewer to handle all industrial wastes. By the construction of this interceptor sewer, this will eliminate completely all bypassing of industrial sewage to the river during periods of storm runoff and, in turn, afford additional capacity in the existing interceptor sewer for transporting approximately 5 times more combined sewage, consisting of only domestic sanitary sewage and storm water to the sewage treatment plant for treatment by sedimentation and chlorination. It is estimated that the amount of pollutants, both BOD and suspended solids, now being discharged annually to the river will be reduced 75 percent or more by this improvement.

It should be pointed out here, that in the 27 years the City of South St. Paul has been treating sewage we have worked in close harmony with the MWPCC and our big brother 3½ miles upstream, the MSSD. We have also just recently experienced an excellent working relationship with the FWPCA. We certainly concur in the necessity for combining the knowledge, experience and machinery of local, state and Federal authorities in a unified effort in combating this problem of water pollution.

In conclusion, I wish to thank the conferees for affording the City of South St. Paul this opportunity of being heard on this matter of water pollution and the part we are contributing to its solution in that portion of the Mississippi River affected by the treated discharge from our sewage treatment plant facilities.

Thank you.

MR. STEIN: Thank you very much.

This appendix will appear in the record.

MR. BADALICH: Thank you.

J. P. Badalich

APPENDIX TO ANALYTICAL DATA

The following indicates plant efficiency for months of complete plant operation with anaerobic stabilization pond from September 1965 - February 1967.

December 1965 - Pond drained for construction of the flood control dike construction.

August 1966 - Limited operation of pond.

December 1966 - Pond resumes complete operation.

(Killing Days)

	Plant Influent 5 day BOD in 1000's of lbs.	Plant Effluent 5 day BOD in 1000's of lbs.	% Reduction
September 1965	137.2	16.1	88.2%
October 1965	141.2	14.3	89.8%
November 1965	146.9	13.3	92.3%
January 1967	135.2	25.4	81.3%
February 1967	120.4	17.3	85.6%
Average	136.2	17.3	87.2%

	Suspended solids 1000's of lbs.	Suspended solids 1000's of lbs.	
September 1965	116.7	4.3	96.6%
October 1965	122.2	5.1	95.7%
November 1965	121.5	7.9	93.4%
January 1967	90.4	3.9	95.8%
February 1-15, 1967	86.1	3.6	95.9%
Average	107.4	5.0	95.3%

J. P. Badalich

	Settleable solids Ml/L	Settleable solids Ml/L	% Reduction
September 1965	13.2	Trace	99+%
October 1965	17.4	.7*	96.0%*
November 1965	14.4	1.4*	90.0%*
January 1967	15.2	Trace	99+%
February 1-15,1967	13.9	Trace	99+%
Average	14.8	.4	97.4

*Reflects Fall turnover in pond but caused no increase in BOD indicating that this was stabilized solids.

MR. STEIN: Are there any comments or questions?

MR. WILSON: Mr. Chairman, I would like to say that I am glad to endorse Mr. Badalich's statement regarding the enterprise of the City of South St. Paul in joining along with the cities of St. Paul and Minneapolis in proceeding to construct the sewage treatment plant before there was any Water Pollution Control Commission, or before there was any Federal Water Pollution Control Agency, largely in response to the action that was taken by the State Board of Health in urging them to get ahead with this job.

Minnesota was fortunate in having the three largest cities, along with the City of South St. Paul, where we had one of the very large sources of industrial waste, proceed on their initiative in those early years, and it was of great assistance to our Pollution Control Commission to point to their example in getting the smaller ones to come along with construction of the sewage treatment plants.

Now, in later years, of course, the population explosion has caught up with these large centers and greatly intensified their problems, and I think this is evident from what has been brought out at this hearing, that they are proceeding with very great diligence in attempting to deal with them.

MR. STEIN: Thank you, Mr. Wilson.

Are there any further comments or questions?

(No response.)

MR. STEIN: If not, thank you very much.

Mr. Smith?

MR. SMITH: I would next like to call on Cenex, Inc.

Is there anyone here to read their statement?

(No response.)

MR. SMITH: Mr. Ginner, would you read this statement, please?

STATEMENT OF CENEX, INC., READ BY MR. GARY GINNER, ENGINEER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER: STATEMENT TO FEDERAL WATER POLLUTION CONTROL ADMINISTRATION.

We have read the "Summary and Pollution Abatement Recommendations for the Upper Mississippi River and Major Tributaries" as prepared by the Federal Water Pollution Control Administration -- Twin Cities -- Upper Mississippi River Project, with great interest. This is a very comprehensive report and it is obvious that considerable effort and time was expended in its preparation. Because of the time involved we were particularly interested in making a statement to advise you of the changes we have made since the data was collected for this report.

You will note that the data reports two samples for Northwest Cooperative Mills, which, incidentally, is now Cenex, Inc. One sample was taken from the compositing pond and the other was reported as pond leakage. Since these samples were taken, we have made some drastic changes in handling storm runoff, snow melt, etc., through the compositing pond.

The original construction of the compositing pond had a common dike between it and the gypsum disposal pond. A new dike has been built parallel to this common dike which in effect forms a continuation of the seepage trench along the base of the west side of the gypsum pond. This new trench is continuous with the previously built trench on the north side of the gypsum pond. Equally as important, the new dike isolates the compositing pond from gypsum pond seepage, which prevents contamination of the storm runoff.

A timber and earthen dam with two gated plastic pipe bypasses was constructed at the outflow weir of the compositing pond to prevent flow to the river when the runoff is not acceptable. One gated line was installed to discharge this water to the seepage trench if it is not suitable for discharge to the river.

Water we are permitted to discharge to the river such as cooling water, overflow from the fire water basin, etc., is now piped to the outflow weir from the compositing basin and continuously monitored by a recording pH meter provided with alarms. This piping is arranged so the flow can be discharged to the compositing pond if for any reason it should become unsuitable for discharge to the river.

Our gypsum disposal pond is completely isolated from seepage to the river and our compositing pond is now an entirely closed system.

CENEX, INC.

/s/ L. B. Edsall

Technical Manager

MR. STEIN: Thank you.

Are there any questions or comments?

(No response.)

MR. STEIN: If not, thank you very much.

Mr. Smith?

MR. SMITH: Next I would like to call on the Village of Cottage Grove, Mr. Bonestroo.

STATEMENT OF OTTO BONESTROO, CONSULTING ENGINEER, VILLAGE OF COTTAGE GROVE, MINNESOTA

MR. BONESTROO: I am Otto Bonestroo, Consulting Engineer. Apparently the counsel isn't here today, so I will read the statement that the Village of Cottage Grove has prepared for the record.

I think for the record it might be well to show where we are situated (indicating). This is a village actually located below St. Paul Park. It is not designated on the map.

The most critical segment of the Mississippi River covered under the Federal study passes through the Village of Cottage Grove. The village has for some time been aware that conditions of poor sewage treatment efficiency, direct by-passing of raw sewage and combined sewer overflow, existed upstream. The full impact of the severity of the problem has been emphasized in this latest report far beyond that realized heretofore. Additions of pollutants to the river have been allowed above all reasonable limits and we are gravely concerned that measures be taken immediately to improve this situation. We are also concerned that improved water quality be maintained in this and all other river segments under anticipated sewage effluent discharges, including the tremendous future increases expected.

We approve of and wholeheartedly applaud a program whereby the river quality will be maintained above the minimum standards proposed. A very crucial aspect is the matter of enforcing these standards, since the present conditions obviously are violating present established standards on the river. It appears that the greatest concern for the river quality downstream from the largest contributing points does not emanate from the contributors themselves. Monitoring of the river quality to assure conformance with the standards appears justified.

Although the village considers the establishment of the proposed minimum standards to be necessary, we feel that this does not indicate an acceptable condition under normal flows and operations. In addition to the proposed minimums, the highest concentrations of dissolved oxygen obtainable by the continuous operation of all units of the treatment facilities in the upstream portion of the river should be maintained at all times. There is no place in a pollution abatement program for a decrease in treatment efficiency or the unnecessary bypassing of sewage at any time, even though the minimum pollution standards are being met. It is our contention, then, that the highest sewage treatment efficiencies consistent with the practical limitations of treatment methods should be required.

Respectfully submitted,
Mayor and Village Council
Village of Cottage Grove.

I would like to point out also for the record that Cottage Grove does have complete treatment.

MR. STEIN: What do you mean by that?

MR. BONESTROO: Activated sludge secondary.

MR. STEIN: Do you chlorinate your effluent?

MR. BONESTROO: Yes, they do.

MR. STEIN: All year round?

MR. BONESTROO: As far as I am aware of, yes.

In addition to that, we are now making a comprehensive study on proposed expansion of the facilities to meet the increase of population.

MR. STEIN: Well, I know you can't speak for the Mayor, but as I read his philosophy here, it seems to me that this notion of St. Paul not wanting to chlorinate its effluent during the winter months, and the view of the Village of Cottage Grove to maintain the highest quality of water coming down at all times, may run into a little conflict.

This is precisely the kind of thing I think the conferees are going to have to wrestle with, and we like to have that brought out.

Thank you very much.

MR. BONESTROO: You are welcome.

MR. STEIN: Are there any further comments or questions?

(No response.)

MR. STEIN: If not, thank you very much. Mr. Smith.

MR. SMITH: The next statement is of the Minnesota Mining and Manufacturing Company. Mr. Ginner?

STATEMENT OF MINNESOTA MINING AND MANUFACTURING COMPANY, CHEMOLITE PLANT, WASHINGTON COUNTY, MINNESOTA, READ BY GARY GINNER, ENGINEER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER:

STATEMENT REGARDING POLLUTION CONTROL FACILITIES
MINNESOTA MINING AND MANUFACTURING COMPANY
CHEMOLITE PLANT
WASHINGTON COUNTY, MINNESOTA
BEFORE THE SECOND SESSION OF THE CONFERENCE
CONCERNING INTERSTATE AND INTRASTATE POLLUTION
OF THE UPPER MISSISSIPPI RIVER
FEBRUARY 28, 1967

The 3M Company plant, located on the section of the Mississippi River under consideration in this conference, is known as the Chemolite plant. It is located in Cottage Grove Township in southern Washington County, on the north bank of the Mississippi River. The plant is approximately three miles above the Lock and Dam No. 2 at Hastings, Minnesota, and about 19 miles below the Minneapolis-St. Paul Sanitary District Sewage Treatment Plant.

The company has been active in pollution control ever since the Chemolite plant began operations in 1947. The process waste water was first discharged to holding ponds constructed prior to 1950. In 1955 waste water was treated in a skimming and settling tank and an oxidation pond, before discharge into the Mississippi River. The sanitary sewage has always been segregated from the process waste and treated separately.

In 1962, new additional waste treatment facilities were constructed to expand and modify the existing facilities. These facilities, which are presently being used, consist of skimming and settling tanks, sludge concentration tanks, oxidation pond, neutralization facilities, and necessary pumping and piping appurtenances. Plans and specifications for construction of these facilities were approved by the Minnesota Water Pollution Control Commission before they were constructed. This information was also presented by written statement to the first conference concerning interstate pollution of the Upper Mississippi River on February 7, 1964. Results of laboratory analysis of the waste water being discharged to the river are compiled and periodically submitted to the Water Pollution Control Commission.

In August 1966, construction of an addition to the existing facilities was started. These new facilities, based on three years of research, are a modification of the activated sludge process and consist of an equalization and neutralization tank, aeration unit, two settling tanks, a pump house, and necessary appurtenances such as pumps, air blowers, piping and flow measuring devices. The plant will be completed and in operation by October 15, 1967. The operation of the facilities and discharge of effluent will comply in all respects with the Water Pollution Control Commission's regulations regarding Classification and Standards for the Mississippi River and tributaries from the outfall of the Minneapolis-St. Paul Sanitary District sewage treatment plant to Lock and Dam No. 2 near Hastings, which were adopted in March 1963. Plans and specifications for construction of these facilities were approved and a permit for construction and discharge was issued by the Minnesota Water Pollution Control Commission on July 28, 1966. Results of laboratory analysis of the waste water discharge will be submitted to the

State on a monthly basis.

We have reviewed the summary report on pollution abatement recommendations for the Upper Mississippi and major tributaries prepared by the Federal Water Pollution Control Administration. Based on our design calculations, we anticipate that the effluent that will be discharged from our treatment facilities to the Mississippi River will meet the river standard as recommended in the report. However, we feel that the general recommendation that all industries, including the 3M Chemolite plant, "provide treatment sufficient to produce an effluent containing no more than 20 percent of the mass of 5-day (20°C) BOD and suspended solids originally contained in the untreated process waste" is not a river standard, but only an implementation of the proposed standard, and in this case it does not represent an equitable evaluation of the proposed river standard. If a river standard is to be used, and we agree that it should be, then the implementation of that standard should be based on the natural assimilation resources of the river when determining the degree of treatment each individual user is required to provide. The cost of providing and operating adequate waste water treatment facilities has become a significant part of a manufacturing plant, and, therefore, it should be approached on a technically sound basis.

MMM Company by G. Ginner

The existing river standard adopted in March 1963 is implemented by using the so-called "equivalent treatment" which we feel is not related to the natural assimilation of the river and not based on sound available scientific knowledge. For the same reason, we are opposed to any recommendation that establishes a uniform limitation for an entire section of a river on individual effluents that is not directly based on the natural assimilation capability of the river.

We strongly urge the Chairman and conferees of this conference to review this proposal and consider the natural resources of the river in this section when the degree of treatment for each individual user is established.

The 3M Company wishes to extend its appreciation for this opportunity to submit this statement to the conference.

MR. STEIN: Thank you.

There is no one from the 3M Company here?

MR. SMITH: Apparently not.

MR. STEIN: I think we have identified their problem, but with reference to the point about the assimilative capacity, I don't know.

What surprises me is that companies can come up with these up-to-date devices for the market, and yet have these old-fashioned theories when it comes to this.

I will say that their major point is well taken, that their effluent requirements should be tailored to a specific plant, and I don't know that we necessarily have to get into the rationale.

Do you have any comments?

DR. JELATIS: I was just going to comment on the same thing, Mr. Stein.

Relating the degree of treatment to assimilative capacities of streams I think is rather old-fashioned, and I think it is becoming recognized more and more that part of the cost of doing business should be the treatment of effluents to the highest degree possible. I think this is the criterion which should be used, rather than try and dump it into a stream and let it assimilate as best it can.

MR. STEIN: Thank you.

I think we are getting rather close to our lunch time.

Our present schedule calls for us to hear everyone. We will be here to hear everyone.

In order to do that and not exhaust the panel, and our reporter particularly, because he has to keep up with it, we will recess for lunch now.

Let's see if we can get back here at 1:35. We will stand recessed until 1:35.

(Whereupon, at 12:20 p.m., a luncheon recess was taken.)

AFTERNOON SESSION

(1:40 p.m.)

MR. STEIN: May we reconvene?

Mr. Smith?

MR. SMITH: I would like to call on a representative of the City of Hastings next.

Is Mr. Steffes in the room?

STATEMENT OF ARNOLD STEFFES, CITY ENGINEER, HASTINGS, MINNESOTA

MR. STEFFES: Good afternoon.

Ladies and Gentlemen, Members of the Commission:

My name is Arnold Steffes, and I am City Engineer of the City of Hastings, and I wish to present the following statement:

The City of Hastings, Minnesota, has a direct interest in the Federal Water Pollution Control Administration "Report on Summary and Pollution Abatement Recommendations."

The City of Hastings' concerns with regard to these recommendations are as follows:

Page 29 of the General Recommendations, Item 3, Treatment of Municipal Wastes.

A. Steffes

The requirement that the treatment is to produce an effluent containing no more than the percentages stated under this heading, does not take into account the effluent load from various plants upstream from the City of Hastings.

The restrictions placed on the coliform guide, value of 1000/100 ml, as a maximum concentration for any one sample, is unreasonable and virtually impossible. The guide value should be stated in terms of average concentration rather than maximum concentrations.

Continuous chlorination will greatly increase the operation and maintenance costs. It is the City's position that chlorination during the recreation season is justified, but chlorination outside the recreation season is an unjustifiable expenditure of public funds in terms of benefits to users of the river.

Our estimate of the cost differential between the four-month recreation season and continuous chlorination is $5,600.

Page 31 of Specific Recommendations, Mississippi River, Municipal Sources, subheading, Hastings Plant, Paragraph 4.

The City of Hastings objects to the statement that practically no treatment is provided. Records over the number of years indicate consistently that a much greater removal than the 5 percent stated in the report has been obtained. Tests conducted by an indpendent laboratory indicate BOD removals of 15 to 20 percent.

It is doubtful that the minimum dissolved oxygen level of 5 mg/l can be maintained at all times between Lock and Dam No. 2 and the Chippewa River, unless steps are taken upstream to reduce the pollutional loads on the river. The city takes the position that little or no improvement in water quality between Lock and Dam No. 2 will be realized until the Minneapolis-St. Paul Sanitary District and the City of South St. Paul have in operation adequate waste water treatment facilities.

The City of Hastings presently has a Federal Water Pollution Control Administration grant for the construction of additions and alterations to their existing sewage treatment plant to provide for additional treatment. The additional treatment is provided by installing secondary treatment designed by adding modified activated sludge treatment which can be revised later to provide for step aeration, increasing the degree of treatment as required. The completion of the sewage treatment plant is scheduled for January 15, 1969. Bids will be received for this project on March 16, 1967.

These are now out in the contractors' hands for bidding. Depending upon the action taken here by the Federal Commission, it may be necessary to extend the date of bidding for the additions to the Hastings sewage treatment plant. However, this would produce no effect upon the completion date as scheduled.

This report is signed by L. Michael Kelly, Mayor, City of Hastings, and attested to by Wallace H. Erickson, City Clerk.

MR. STEIN: Thank you.

I wonder if that modified active sludge you have now meets the Minnesota requirements.

MR. STEFFES: The plans and specifications for the additions to the Hastings sewage treatment plant have been submitted to the State Board of Health. They were designed upon the criteria given us by the Minnesota Water Pollution Control Commission. The designs have been approved by the United States Public Health Administration.

MR. STEIN: I recognize all that, but is your effluent at 50? Does it meet the requirements of 50?

MR. STEFFES: Yes.

MR. STEIN: 50?

MR. STEFFES: At present the plans which are out for bids will meet the 50.

MR. STEIN: 50, but Minnesota just said that

50 wasn't good enough. They wanted 30.

MR. STEFFES: That is the statement I made, which was not in the report which I ad libbed, that if that change is necessary we are willing to meet with the Water Pollution Control Commission and see what the requirements will be. They have to establish the requirements before we can design it.

MR. STEIN: Minnesota indicates that the change is necessary going down from 50 to 30.

MR. STEFFES: They did not indicate that up to the time that the U. S. Federal Water Pollution Control Commission --

MR. STEIN: We heard it here today. I don't think we are going to pursue Minnesota on that. If you are just doing 50 and they want 30, maybe you ought to just get talking to them as soon as you can.

MR. STEFFES: I cannot here speak for the council of the City of Hastings at the moment. However, I can say this: That I have been contacted by the Chairman of the Sewage Commission of the City of Hastings to ask for a review of the plans in the light of what the results of this meeting will be, and I do believe that it is the general consensus of the council of the City of Hastings that they will be willing to abide by the requirements.

MR. STEIN: Now, there is just one other

information question.

You say: "Records over the number of years indicate consistently that a much greater removal than the 5 percent stated in the report has been obtained."

How much over the 5 percent have you obtained?

MR. STEFFES: 18 to 20 percent. The last results that we have had made by an independent laboratory gave us 18 percent removal.

You must realize that our plants were designed and constructed in 1953, and based on the population of 7,000. The City of Hastings has had a much more rapid growth than the projected population, and we will admit that our present plant is at the design capacity.

MR. STEIN: That's right. You know, again, when we talk about "much greater than 5 percent," 18 percent may be much greater than 5. When we were talking in terms of removal of 90 percent or secondary treatment, somewhere in the vicinity of 80 or 75, when we get down to 18 as related to 5, I don't know that we really have disinfected sewage treatment.

MR. STEFFES: We don't contest that. We are not contesting that as an argument. We realize that.

If we had not realized that, we would not have made an application to the Federal Water Pollution Control

Agency for a grant.

MR. STEIN: I recognize that. I am just clarifying your statement. You indicate here that consistently a much greater removal than the 5 percent stated in the report has been obtained. If you raised that by another 300 percent, which you probably have, you still are not doing very much.

MR. STEFFES: I don't follow your question, Mr. Stein.

MR. STEIN: The question here is if we are dealing in terms of a range between 5 percent removal and 18 percent removal, I don't know that we are really dealing in meaningful terms of effective water pollution control.

MR. WISNIEWSKI: Mr. Chairman, I can't understand what point you are trying to make.

They are proposing to place the plant up for bids and proceed with construction.

Let's move on to the next item instead of having a quarrel about whether 5 percent or 18 percent is being accomplished. Let's move along in this thing.

MR. STEIN: I don't know that there is any quarrel, Mr. Wisniewski.

MR. WISNIEWSKI: They said they are going to build a plant. Let's move on. They have a Federal grant; they want to use it and put it to work.

Now, let's not stretch this hearing.

MR. STEFFES: That is a very good point, and that is the point that the City of Hastings and the Council of Hastings and I, as the City Engineer, wish to leave with the body, and also for correction, as far as any newspaper publicity is concerned, that the City of Hastings has not been producing an effluent of 5 percent removal -- they have been producing a better effluent -- and also, keeping in mind that the treatment plant was designed beginning with 1937 and it finally came to an accomplishment in 1953. It was designed according to State and Federal standards at that time.

It is only a primary plant, and as a primary plant it has reached its peak capacity, and I think that a reduction of 18 to 20 percent is not a bad record for a primary plant.

That is the point that I wish to make. I don't wish to argue the point, but I wish to present it to clarify the record.

MR. STEIN: All right. Thank you.

Are there any further comments or questions?

(No response.)

MR. STEIN: Mr. Smith?

MR. SMITH: The next statement will be from the American Crystal Sugar Company.

Mr. Ginner?

STATEMENT OF THE AMERICAN CRYSTAL SUGAR COMPANY, CHASKA, MINNESOTA PLANT, READ BY GARY GINNER, ENGINEER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER: This is dated February 27, 1967.

AMERICAN CRYSTAL SUGAR COMPANY

CHASKA, MINNESOTA PLANT

On March 18, 1965, we confirmed by letter to the State of Minnesota Water Pollution Control Commission, our intention to construct treatment facilities for our waste water from our Chaska plant.

Our original planning was for the construction of holding lagoons, providing sufficient suitable land could be purchased. Negotiations for the land in question failed. It was then decided to construct a closed loop system for our beet fluming water and segregate the other in-plant waters so that water pumped for cooling could be returned direct to the river or to our river pumping station.

The installation as constructed cost $250,000. It includes a new waste water pumping station, waste water screening facilities (Tyler Ton Cap Screen No. 554, .054 width of opening), 100 ft. diameter Eimco clarifier with mud pumps and a mud pond slightly under 15 acres in size. Due to various construction delays, the system was not placed in operation until December 8, 1966. Some operational difficulties were encountered; some were overcome, while others entail more study and changes.

Although our new waste water treatment facilities were in operation only during the latter part of our 1966-67 operating season (67 days), we have reason to believe that the system will meet the General Recommendations set forth under Item 11, Page 30, and Item 2, Page 32 of the Summary and Pollution Abatement Recommendations for the Upper Mississippi River and Major Tributaries, Federal Water Pollution Control Administration, Twin Cities - Upper Mississippi River Project.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, Mr. Smith?

MR. SMITH: Our next statement is from the Rahr Malting Company.

Mr. Thimsen?

STATEMENT OF THE RAHR MALTING COMPANY, MINNEAPOLIS, MINNESOTA, READ BY DONALD J. THIMSEN, MINNESOTA DEPARTMENT OF HEALTH

MR. THIMSEN: My name is Donald J. Thimsen and I am from the Minnesota Department of Health. I am reading the statement from the Rahr Malting Company. This statement is from Mr. C. R. Alt of the Rahr Malting Company, and is dated February 24, 1967.

This letter is addressed to Mr. Robert N. Barr, M.D., Secretary, Minnesota Water Pollution Control Commission, Department of Health, University Campus, Minneapolis, Minnesota 55440.

Dear Dr. Barr:

We acknowledge your invitation to attend the conference on water pollution control scheduled for Tuesday, February 28, at the Leamington Hotel, Minneapolis. The writer will attend this session, and consulting engineers retained by our company will also be there. In lieu of making a personal presentation, we submit this statement.

Our company is in complete accord with the broad objectives of the Minnesota Water Pollution Control Commission with respect to reduction of pollution. It is a basic policy of this company to cooperate fully with public authority. In order to conform to standards now set for the Minnesota River, our planning has been updated. We have met with officials of the City of Shakopee on several occasions, and have also met periodically with representatives of the Minnesota Water Pollution Control Commission to keep them currently informed of progress being made on our program.

The treatment of effluent from our Shakopee, Minnesota, plant has had our attention over a period of many years. In constructing additions, plant design made provision for separation of cooling water from other effluent. Outside engineering counsel has been retained to advise us on these matters.

Our company cooperated with Toltz King and Day, Inc., of St. Paul, when they were engaged by the City of Shakopee to provide primary sewage treatment for that community. Their report of February 26, 1957, prepared for the city, envisioned future inclusion of malting company wastes at such time as secondary treatment would be provided for the community. When interceptors were installed in Shakopee, at the intersection of Clay and Spring Streets, they were sized to handle wastes of our plant at that juncture.

During the period October 15-17, 1963, the Minnesota Department of Health conducted an extensive survey of our plant effluent and issued a report of their findings. Our personnel cooperated in this study, providing information so that there could be a determination of volume averages to be anticipated over an extended period of time.

During recent years certain screening devices in the malting plant have been replaced with equipment of improved design to reduce the volume of raw materials leaving the plant as waste.

Other in-plant modifications included extensive piping changes, making it possible to completely separate plant effluent to a point at the plant boundaries, in contemplation of further extension when secondary treatment is available.

It was deemed prudent to defer specific planning for construction until classification and standards for the Minnesota River had been established in November 1965. Subsequently, the City of Shakopee engaged the firm of Bonestroo, Rosene, Anderlik and Associates of St. Paul, Minnesota, as consulting engineers to study the sewage treatment problems and needs of the Shakopee community, including industry. Our company has cooperated fully with these engineers, and has also retained their services for counsel, engineering, design, and to supervise construction of those facilities which we consider the responsibility of our company.

Rahr Malting Co., by D. J. Thimsen

Rahr Malting Company has now awarded a contract for construction on its property of a holding tank and screening device to accomplish two things in particular. The holding tank will make possible the release of processing water on a relatively steady flow basis throughout 24 hours of each day. This will significantly reduce the required size of secondary treatment facilities. The screening device will remove suspended solids which would otherwise be run into the community treatment plant.

Further treatment of these process wastes is dependent upon provisions for secondary treatment. We believe it is desirable to have a single treatment operation to serve the total needs of the Shakopee community.

The consulting engineers are now completing a comprehensive study to assemble the information needed to plan for such facilities. We assure your office, and the City of Shakopee, of our complete cooperation in carrying this program through to a satisfactory conclusion.

Respectfully submitted

/s/ C. R. Alt

MR. STEIN: Thank you.

Are there any questions or comments?

(No response.)

MR. STEIN: If not, Mr. Smith?

MR. SMITH: The next statement I have is from Cargill, Inc.

STATEMENT OF ROBERT F. HUBBARD, ASSISTANT GENERAL SUPERINTENDENT, CARGILL CORPORATION, MINNEAPOLIS, MINNESOTA

MR. HUBBARD: I am Robert Hubbard, Assistant General Superintendent of Cargill Corporation. I have a brief statement of what we have done. It was first brougnt to our attention when the original survey was started, and this is the statement for the record:

Tests of discharged water from our Port Cargill plant during the period 10/24/64 to 1/14/65 showed the BOD varied from 23.6 PPM to 1,307 PPM. Investigation of possible pollutants determined that a major source was a wet dust collector at the soybean plant from which dust-laden water was discharged to the river. It was determined the unusually high periods of pollution were the result of a pilot plant practice of washing mistakes and spills down the floor drains, not a septic system, but an overflow, which then discharged to the river.

The following corrective action has been affected:

1) A fabric dust filter was purchased and

installed as of October 1966 at the soybean plant. This filter has no water discharge.

2) Although the pilot plant is now shut down, the practice of washing spills to the floor drain has been eliminated and any future spills would be drummed for disposal.

Tests of the stream as made by the Twin City Testing Company in January and February of 1967 showed the following:

BOD - 5 - 10 PPM

Undissolved Solids - Negligible

pH - 7.6.

This concludes the statement.

MR. STEIN: Yes. Are you in compliance with the Minnesota requirements now?

MR. HUBBARD: Pardon?

MR. STEIN: Are you in compliance with the Minnesota requirements, or do they require more?

MR. HUBBARD: I am not sure we are aware of the exact requirements for our discharge.

MR. SMITH: I believe they are in compliance. Yes.

MR. STEIN: All right. Thank you.

Are there any further comments or questions?

(No response.)

MR. STEIN: Thank you very much.

MR. SMITH: The next statement is from Eagan Township.

STATEMENT OF JOHN J. KLEIN, REPRESENTING
THE TOWN BOARD OF SUPERVISORS, EAGAN
TOWNSHIP, DAKOTA COUNTY, MINNESOTA

MR. KLEIN: I would like to introduce myself. I am John Klein of the Town Board of Supervisors of the Eagan Township, and I would like to locate it on the map.

It is right in this area here (indicating). Eagan Township is 34.5 square miles in area, and we are located 9 miles from downtown Minneapolis and 7 miles from downtown St. Paul and 2 miles from the airport. Because of our location, there is great acceleration in development in Eagan Township of both residential and commercial and industrial, and for that reason we are doing everything we can to prepare for this growth.

We are presently about 7,500 in population. The NPC projections for 1975 indicate it will grow over 10,000 people in the next eight years, and our future projected population is between 100 and 112,000.

We are about three-fifths the size of St. Paul in area.

J. J. Klein

We have a statement here that I would like to read.

As one of the communities vitally concerned with the future condition of the Minnesota River, Eagan Township appreciates the opportunity to comment on the recently completed river quality study and the proposed minimum river quality standards.

Eagan Township is a rapidly growing suburban area with approximately three miles of frontage on the Minnesota River. This entire area is within that length of the Minnesota River now shown to have the most pollution. Prompt and positive action is necessary to restore this section of the river to a condition continuously acceptable for navigation, pleasure boating, fishing, stock and wildlife watering, irrigation, and maintenance of rough fish life.

The minimum standards recommended in this study represent a significant improvement and provide a practical level which can be attained. However, we do not feel that the establishment of these standards should be taken to represent the desirable conditions under normal river flow. In addition to satisfying the minimum standards proposed, all treatment facilities on the river should be operated continuously at the highest degree of treatment consistent with their design. Normal operation should include maintaining the level of dissolved oxygen in the effluent at the highest practical level, continuous efforts to maintain BOD and bacteria count at the lowest levels and the removal of all possible objectionable solids.

We approve of the proposed Federal standards which, while requiring a satisfactory level of purity, do not represent a prohibition of the discharge of a highly treated sewage plant effluent into the Minnesota River. With adequate design and operation, properly placed regional sewage treatment plants can provide treatment of the sewage from adjacent municipalities and still maintain these river quality standards on the Minnesota and Mississippi Rivers.

Equally important as the establishment of proper river quality standards is the enforcement of them. It is suggested that careful consideration be given to the development of an adequate staff and checking procedure to insure that river quality standards are continuously maintained. Treatment plants must be operated satisfactorily and maintained or improved as indicated by continual routine testing. Long-range planning for constant upgrading of treatment techniques should be encouraged. The enforcement and implementation of this program can best be carried out by a properly staffed and organized State of Minnesota agency.

Very little pollution is being contributed to the

Minnesota River by present development in Eagan Township. As the area grows, we will do everything within our power to cooperate with the State program of pollution abatement and to minimize pollution discharged into the river.

Respectfully submitted,

Eagan Township, Minnesota.

MR. STEIN: That is kind of a downstream community. Let me ask you this question specifically here: Have you thought about the year round disinfection of the effluent? Have you heard this controversy, or are you familiar with it?

MR. KLEIN: I'm sorry, sir; I can't hear you.

MR. STEIN: You can't hear me?

MR. KLEIN: No.

MR. STEIN: I refer to your statement. You want effluent at the highest practical level.

Now, the question we have and that the conferees are going to have to consider is whether they are going to require any disinfection of the effluent, and whether they are going to require that on a year round basis, or just during the recreational season.

Do you have any views on that?

MR. KLEIN: I would prefer to have any of these technical points answered by our consulting engineer, and he is here in the audience, if you would like him to answer those.

MR. STEIN: I don't know that this is a technical point. The difficulty that we have is trying to translate the views that you have into this.

Let me again give you the position, and this was the position taken by the St. Paul District. The recommendation made by the Federal conferee was that secondary treatment be provided, and I am sliding over that without getting into what secondary treatment is, plus year round chlorination of the effluent.

The St. Paul District man indicated that they thought that chlorination of the effluent, disinfection of the effluent, should just take place during the summer season, or during the recreation season, or certainly not during the non-recreation season.

You have pointed out that we have to have a removal of the effluent at the highest practical level and bacteria counts at the lowest levels.

Now, I wondered if you had thought this question through. If you haven't, you haven't.

MR. KLEIN: Well, the only thing that we say is that we are willing to go along with this disinfection during these low levels, but what we meant by this "highest practical standard" was that it should be on a year round basis wherever that may be deemed to be necessary by the Water Pollution

Control Commission.

What we do object to is total prohibition of discharging into the river, and that is why we say "highest practical."

MR. STEIN: All right. Thank you.

MR. SMITH: Mr. Stein, the Commission has issued a variance. This section did contain a prohibition and they have issued a variance, and Eagan Township has that variance to establish two aerating ponds, and the question here is whether they go beyond that prohibition or not.

DR. HARGRAVES: I want to eliminate your difficulty.

You do not get over to the Mississippi, do you?

MR. KLEIN: No, sir. Our natural drainage area is into the Minnesota.

DR. HARGRAVES: It is three miles along here.

One of the difficulties, of course, that arises is a difference in philosophy and desirability as to whether to use for effluent streams that pass through major cities and have plants on them, or have it all brought down to one plant.

We issued a variance so they could put in two temporary ponds. I am sure the future is going to hold the answer. It is all in the courts yet, with all of these, but the question is whether they will have a plant, and so on, and discharge in here (indicating), or whether it can be carried over there (indicating).

I think I have stated it right. There are certain groups that would like to have separate plants on the Minnesota River. This Sanitary District is growing up, and the plan is to carry interceptors down to all of these areas, and pick it up and bring it down to Pig's Eye, if this part of the plan is approved by the people of the State, or whoever is going to be making decisions.

At the present time, we bring this back to a metropolitan sanitary district versus a number of districts.

MR. KLEIN: Dr. Hargraves, we feel that we can sympathize with this philosophy to a point. If we are going to be 4 million people in the metropolitan area by the year 2000, we feel certainly that bringing this second river underground from Shakopee to Pig's Eye and discharging it at that point, we will be discharging a higher degree of sewage into the river at one point which will then be carried past communities with populations projected in excess of what St. Paul is presently populated at, so there seems to be a bit of paradox in that philosophy that we along the Minnesota River have a total prohibition standard, because they don't want this carried past major concentrations of people. Yet, the answer that we have been given to this is to pipe it to Pig's Eye, dump it in the river there, and run it past areas which will be populated in excess of what St. Paul is now.

This is where the conflict comes. We feel that we can maintain a high degree of treatment in Eagan Township.

As a matter of fact, the studies which we have made seem to support this. They definitely support it. They prove that we can do a more efficient job of treating. We can have more flexibility with these regional plants, and they are more economical, and so we have taken the position of supporting regional plant concepts.

Furthermore, we believe that some place along the line we are going to have to face up to the regional plants, because there is a practical limit that we can extend pipelines from one plant, and so we are trying to approach this thing with a minimum possible pollution to our streams. We feel that this is the answer.

There is disagreement on this, and it is a matter of difference in philosophy, but we are very strong in our position on this thing, and we feel that we have had it supported by an extensive study which we had made.

DR. HARGRAVES: I just wanted to have it brought out that this is the very knotty problem, and certainly there are excellent arguments on both sides as to how it is best settled.

MR. STEIN: Mayor Jelatis?

DR. JELATIS: Mr. Chairman, this indeed brings up a philosophical problem. While I am sure that we all concur in the objectives as stated by Eagan Township, what comes into question is the best way to achieve them.

I think this is brought out in the Summary Report, not as a conclusion, but it is one of the observations relating to the metropolitan area, in which you said that planning an action to alleviate metropolitan problems of sewage collection, treatment and disposal can be handled best by a single authority.

This is on Page 22, and the conclusion, I think, states that whether the best solution lies in the use of one or several plants, the important point is that all sewage facilities be planned as part of an integrated system, encompassing the entire metropolitan area.

Now, the question whether properly placed regional plants can provide better treatment than a single one I am sure is still an open question, but the question of adequate maintenance of treatment standards and continual quality I am sure can be perhaps better administered under a single agency that can have the staff and equipment to do a more thorough job than a number of relatively small plants.

MR. KLEIN: We haven't been opposed as such to a single agency which might have control over this, but we do take the position as to whether it will be a one-plant concept or regional or district plants, and also how the cost allocations will be applied to those areas being served by either the one plant or the regional. This is where the conflict comes.

This also is why there is so much confusion, if you want to say that, at our State legislative level.

These people are sitting on volumes of engineering reports. I doubt if any one of our legislators has even had time to really go through all of these reports that they have been given, and it is a very difficult task.

MR. STEIN: I think this comes to the nub of the question. I ask you all to look at this.

I know there will be no conflict to indicate that this is a problem faced by many, many metropolitan areas. The question is whether you have a central authority where from the core city they work out with all the other cities, and they sign contracts, and you put it in, or whether you in the smaller communities are in effect on the board of directors and can call the shots, or you are going to go independently.

Now, my suggestion here, and this is always the nub of these questions --

MR. KLEIN: Well, Mr. Stein, you say that one of the things that is plaguing you as far as proper legislation on these levels is concerned is how this one central authority will be established, and how the representation on that authority will be arrived at.

Certainly we feel that there should be two factors taken into consideration in forming representation on this one central authority if there is one established, and because the suburban areas are going to realize three-quarters possibly of the growth in the metropolitan area over these next thirty-five years, why, we feel that this should be a significant factor in establishing representation on these committees.

MR. STEIN: Let me make this clear. I don't think Wisconsin or the Federal Government really have any business in telling you in Minnesota how to set this up.

The problem that we are both going to have is knowing that if you haven't got this setup, we are going to have a problem in getting this going, and I think it behooves the Minnesota group to get together and get together pretty fast, because in the absence of a clear-cut operation, you are going to really leave us no alternative than to go into it source by source and demand pollution control. I don't know that this is going to be the most economical way.

Whichever way you go, I think you should have an integrated system and something that is going to be of least cost to you and easiest to manage, and give you full authority to run this.

Now, we don't have much time on this, and I am very glad for your contribution here. Again let me say this: This is a situation where you are just going to have to sit down with your neighboring cities and your State administration and work out for yourself and do it.

Now, I don't want to speak for the conferees, but as far as the Federal Government is concerned, anything you present to us that will do the job we are going to buy. Sometimes the cities and these metropolitan areas come up with a plan which we don't think is the most economical, but we figure if they want to spend 10 or more million dollars and do it this way just to dovetail their political subdivisions together, this is all right with us.

However, as I say, the time is now when something has to give to work this out.

MR. KLEIN: We are hoping that it will, sir, and we are hoping that we will see something fruitful come out of this session.

Thank you.

MR. STEIN: Thank you. Mr. Smith?

MR. SMITH: The next statement is the statement of the North Suburban Sanitary Sewer District.

STATEMENT OF JOHN M. MASON ON BEHALF OF THE NORTH SUBURBAN SANITARY SEWER DISTRICT

MR. MASON: Mr. Chairman and Members of the Panel:

My name is John Mason. I am an attorney and I represent the North Suburban Sanitary Sewer District.

That District is roughly represented by the shaded portion on the map here above Minneapolis and St. Paul and below Anoka.

The North Suburban Sanitary Sewer District, known as the "NSSSD," is a political subdivision of the State of Minnesota. It is organized for the purpose of preventing water pollution and providing a modern sewage disposal system to residents of its service area. At present it provides sewage collection service to residents of Coon Rapids, Fridley, Blaine, Spring Lake Park, Moundsview and Shoreview. Later in 1967 it will also serve Circle Pines and Lexington.

THE SPECIFIC RECOMMENDATIONS

Inasmuch as the Specific Recommendations in the

Summary do not relate directly to the North Suburban Sanitary Sewer District, we shall make no comment on that portion of the Pollution Abatement Recommendations of the Federal Water Pollution Control Administration.

THE GENERAL RECOMMENDATIONS

We recognize that it is neither the purpose nor the intent of this conference, nor is this conference permitted, to adopt general water quality standards. We shall, therefore, make our remarks concerning the General Recommendations very brief, and shall not comment on all of the recommendations.

Reports

The North Suburban Sanitary Sewer District would agree that systematic reports by municipal treatment plants would be of great benefit. These reports would not only be valuable for purposes of comparing effectiveness of treatment of various sewage treatment plants, they would aid in determining the source of any pollutional load on the receiving waters.

The North Suburban Sanitary Sewer District plans to build a modern sewage treatment plant which would discharge into the Mississippi River below the head of navigation. This will be a modern secondary sewage treatment plant utilizing the activated sludge process and disinfecting the effluent. It will yield an effluent discharge providing DO levels even higher than contemplated by the Federal Water Pollution Control Administration report, and which will also meet the coliform requirements. The District would be most pleased if reports of its operation were compared with those of other plants in operation. These comparisons would be fruitful in securing higher quality effluent.

River Zoning

The head of navigation on the Mississippi River now extends to the Soo Line Bridge, above St. Anthony Falls. It would seem inconsistent with the policy of encouraging river navigation to suggest that the entire portion of the Mississippi River from Anoka to the Minnesota River be used for swimming, skin diving and water skiing. This portion of the river includes Lock and Dam No. 1 and the new locks at St. Anthony Falls. The latter were constructed at great expense to the Federal Government and local governments, for the purpose of extending the head of commercial navigation to the Soo Line Bridge. It would appear more realistic and more consistent with present and anticipated uses of the Mississippi River if the first "zone" terminated at the head of commercial navigation rather than at the artificial point presently contemplated. While it is no doubt convenient to divide the river into segments based on natural observable points such as confluence of rivers or waterfalls, to do so can lead to oversimplification of the solution to the problems.

The North Suburban Sanitary Sewer District believes that the real solution to the problem of water pollution in the metropolitan area is the construction of treatment plants discharging at various points in the area, rather than concentrating the load at the one plant currently favored by the Minnesota Water Pollution Control Commission. The present discharge of the overloaded Minneapolis-Saint Paul Sanitary District ("Pig's Eye") plant is the acknowledged principal cause of the unsatisfactory conditions revealed by the Federal Water Pollution Control Administration's report. To exaggerate the problem by transporting to

Pig's Eye all of the additional sewage which may be expected to be generated in the fast growing suburban areas north, northwest, west and southwest of the Twin Cities can scarcely have any effect other than to abandon the river downstream from Pig's Eye, and to restrict the solution to cleaning up all of the waters of the State.

For the foregoing reasons, the use classifications for the Mississippi River above the head of commercial navigation should not be the same as the use classifications below that point.

CONCLUSION

The North Suburban Sanitary Sewer District welcomes efforts aimed at improving the quality of waters of the nation, and making full use of all such waters. It pledges its cooperation toward that end.

This concludes the prepared statement of the North Suburban Sanitary Sewer District.

Mr. Chairman, in addition to the formal statement which I have presented, I believe it is necessary to correct any wrong conclusion which may be drawn from statements by Mr. Wilson about the position of the North Suburban Sanitary Sewer District on the standards which have been set for the Mississippi River by the Minnesota Water Pollution Control Commission, and the court decision on the standards. Otherwise, I believe this conference may misunderstand one of the important facts under consideration. Perhaps Mr. Wilson will agree with this clarification, because, like me, he is a lawyer.

While we may agree that doctors can think biologically and ecologically, lawyers are restricted to thinking logically.

(Laughter.)

I believe Mr. Wilson said that the Water Pollution Control Commission is appealing to the Minnesota Supreme Court from a decision upsetting the water quality standards established for the Mississippi River. This is not correct.

What was principally argued by the North Suburban Sanitary Sewer District, and what was decided by the Court, was that the absolute prohibition of the discharge of any effluent from any sewage treatment plant, regardless of compliance with qualitative water standards, was not within the powers granted to the Commission by the Legislature, nor was it a solution of the problem of water pollution. The remaining standards were affirmed and would take effect immediately, were it not for the appeal by the Water Pollution Control Commission.

The North Suburban Sanitary Sewer District's position is that a total prohibition of the thing to be regulated is not a standard on which any meaningful regulation can be based, and presents a roadblock in the path of solving sewage disposal problems of the metropolitan area. I think that our position may have been more accurately described in one of Mr. Wilson's earlier statements, that the Legislature has so far declined to take the course urged by the Commission: to expand the Minneapolis-St. Paul Sanitary District to collect more sewage to add to the problem at Pig's Eye.

I might add parenthetically that the decision of the Court rejecting the absolute prohibition established by the Water Pollution Control Commission was not rendered under the Rosenmeier Act, but under laws which existed before the Act was passed, and which are still in effect.

I trust that the view expressed by Mr. Wilson that our North Suburban Sanitary Sewer District has been a "thorn in the side" of the Water Pollution Control Commission is not shared by the persons duly appointed to that Commission.

The sole purpose of the North Suburban Sanitary Sewer District is to work toward improvement of water quality. It is not the North Suburban Sanitary Sewer District, but the Commission, which has allowed the Pig's Eye plant to continue to destroy the river downstream from the plant. If the North Suburban Sanitary Sewer District proposal provides a constant reminder of the deplorable conditions between Pig's Eye and Hastings, not permitting the Commission to close its eyes to that problem, we are proud to be known as a "thorn in its side."

The North Suburban Sanitary Sewer District was unaware that Mr. Wilson would choose to make his unwarranted attacks on its efforts at averting pollution. It therefore requests an opportunity to submit and present a detailed and documented report of the activity of the North Suburban Sanitary Sewer District aimed at pollution control.

We are sure that no objective observer would consider the North Suburban Sanitary Sewer District an enemy of clean water. Instead, the facts clearly establish that the roughly $20 million already spent by the North Suburban Sanitary Sewer District and its member communities on abatement devices has substantially alleviated pollution problems of its area. The effect of this substantial expenditure has been to insure that wastes are not discharged into the Mississippi River above the Minneapolis and St. Paul water intakes, but rather collected for discharge at some point downstream from these intakes.

If the Water Pollution Control Commission seriously fears loss of local control over standards, it may fulfill the responsibilities of the State for establishing standards in the metropolitan area, and avoid the entrance of the Federal Government by a simple act. The qualitative standards already established by the State for the metropolitan area can take effect immediately if the Commission will abandon its insistence on absolutely prohibiting discharges of treated effluent and its claim of power to prohibit such discharges without regard to standards.

MR. STEIN: Do you want to submit that report to the State or to the conferees?

MR. MASON: I beg your pardon?

MR. STEIN: To whom do you want to submit that detailed report?

MR. MASON: We would like to submit it to the Chairman.

MR. STEIN: How soon can you have it in?

MR. MASON: I will have to consult with the engineers.

MR. STEIN: We will keep the record open. Can you have it in a week?

MR. MASON: I believe we could.

MR. STEIN: All right. Why don't we try a week?

Did you want to answer that, Mr. Wilson, or do you have a comment?

MR. WILSON: Mr. Chairman, as one lawyer to another, I certainly would say to Mr. Mason that I haven't the slightest objection to his submitting any arguments or material that he wishes in behalf of the North Suburban Sanitary Sewer District.

The problems of that District have been very serious, and certainly have been fully recognized by the Commission.

Mr. Mason's connection as attorney for that Commission does not go back to the beginning, when the controversy first developed between that Commission and the District, and that District attempted to evade the authority of the Commission, and perhaps my remark was a little sharp when I said that that District was a thorn in the side of the Water Pollution Control Commission. However, I do not think that it was out of place because it caused the Commission to spend a substantial amount of time and effort in litigation that could have been much more effectively spent on constructive water pollution control activities.

There are many aspects of the record in that case which involve several hundred pages of hearing testimony, and I think about 1,000 pages of trial testimony, which would be entirely out of place to discuss here, because they have no bearing on the issues before this conference.

Whether Mr. Mason wants to submit the statement to the Chairman of the conference is perfectly all right with me, and I may have something further to say after I read that statement.

(Laughter.)

MR. STEIN: Yes.

Mr. Mason, I wonder if we could get Mr. Printz or one of these people up with you on a colloquy, because I think you have raised a significant question here, and I am not sure if we really have the issue framed.

You say:

> "It would seem inconsistent with the policy of encouraging river navigation to suggest that the entire portion of the Mississippi River from Anoka to the Minnesota River be used for swimming, skin diving and water skiing."

Now, if we come to different conclusions on that, this is a significant departure, and I wonder, Mr. Printz, do you stay with our original recommendation? I wonder if you would come up here, and let us try to frame this for the conferees, because I think this is a very significant point.

MR. PRINTZ: Yes, Mr. Chairman, we very definitely feel that that reach of the river all the way from the vicinity of Anoka down to the North Suburban Sanitary Sewer District ought to be available for body contact, or what we call our coliform Guide A, the reason being that there is limited practice now of those waters for whole body contact.

As I indicated in my formal presentation yesterday, there are uses made of these waters which don't show in those particular figures of the report. Below the extensive whole body contact zone listed in the figures, there are whole body contact uses made of those waters, the same as there are near the University Landing below St. Anthony Falls.

We feel that the fact that the waters are open for navigation -- there is a navigation channel -- should not preclude the use of those waters for whole body contact.

We might also point out that in Lake Pepin we are also calling for whole body contact, and this is a heavily navigationally used river, so we would not yield in our recommendations. The fact that we have limited usage now seems to mean to us that there will be a greater usage of this in the future.

MR. STEIN: In order to give you the last word on this, Mr. Mason, in rebuttal, the position we have had in other rivers, such as the Missouri, has been when the Corps of Engineers has put in a navigational channel, they in effect had a series of pools, and they have opened these for recreation, for boating and swimming.

If this is not the case here, I would like to get your view, because the conferees surely will consider this, and this is a new point.

MR. MASON: Substantial evidence on this very point was presented in the case before the District Court in Anoka in the trial of the appeal from the standards, in which a verdict was rendered in favor of the District.

It is the position of the District, and one which differs from the position of the Federal Water Pollution Control Administration, that the uses are inconsistent.

I am not prepared personally to present all of the facts on which that conclusion is based. The facts are simple enough to know, that you cannot have skin diving in the same area that you have commercial navigation, where a person could be injured by the commercial navigation. The same would be true of the water skiing.

Now, I don't pretend that that is at all a beginning of a problem, but I am submitting the view --

MR. STEIN: But the State has a different view.

MR. MASON: The State has had a different view from the North Suburban Sanitary Sewer District on a number of matters.

MR. STEIN: Well, I am glad to have this, and I think maybe we should have this.

MR. MASON: We will add this to our report.

MR. STEIN: My experience has been in other parts of the country, and this includes Alaska and Hawaii, that commercial navigation and skin diving are not at all incompatible. As a matter of fact, particularly on the rivers, where the river is made available for commercial navigation, we often tame what is relatively a wild river and a dangerous river, dangerous for boats and dangerous for humans. When we get that channelized and we put the locks in, in effect you have a lake, and then we have this concept of multiple use.

Now, if this is inconsistent and you have any points, I think again we should get these pretty soon in order to consider them.

MR. MASON: We would be happy to present them.

I don't suppose you are suggesting here, Mr.

Stein, are you, that this was a wild river?

MR. STEIN: No. When I was talking in terms of a wild river, I didn't mean in terms of art.

Let me again give you the Missouri. It used to be that it took a really brave, foolhardy man to hop into that roaring Missouri River and try to swim in it and get out, because the chances were he would not be seen again.

The Missouri River was lined up for navigation, and we had a series of pools. The river was channelized in many places and became calm. In those places we could run small boats, people could go swimming, and I know the river is so muddy that I guess skin diving would be unproductive, but we did have water skiing. In other words, the commercial navigation opened that up to the body contact sports.

This has happened in many other places. That is why I am trying to get the issue on why you think they are incompatible. It seems to have worked the other way.

MR. MASON: Well, as I say, I am not qualified to give an answer to that, but we will add that to our statement.

MR. STEIN: Thank you.

MR. WILSON: Mr. Chairman.

MR. STEIN: Yes, Mr. Wilson.

MR. WILSON: I would like to make an additional comment.

MR. STEIN: Will you talk louder, Chester, please?

MR. WILSON: We have conveyed an erroneous impression in saying that this was an arbitrary standard, because, like all city zoning ordinances, this standard contained a variance clause under which the North Suburban Sanitary Sewer District could have applied for and obtained a variance from the standard upon a showing of hardship, the same as property owners may do under city zoning ordinances.

The lower court chose to disregard that variance clause as relieving the absolute prohibition of the standard itself. That is one of the issues that will be subject to determination by the Supreme Court on the appeal taken by the Commission.

Bear in mind that, in the first place, the North Suburban Sanitary Sewer District took the original appeal from the standard adopted by the Commission to the District Court. Then, when the District Court decided adversely to the Commission, the Commission has appealed to the Supreme Court for a final decision.

My principal purpose in citing that case, as well as the previous case in which the North Suburban Sanitary Sewer District sought exemption from the authority of the Commission, is to show that in the situation in which the

Minnesota Commission is placed by our law, where the adoption of a standard is necessary before an enforcement order can be issued, it practically doubles the difficulty of the Commission and requires the application of a tremendous amount of time and energy and money by the Commission and its technical and legal staff through the holding of hearings and the carrying on of litigation, in the case of these appeals, which is not necessary in those cases where, as under the Wisconsin law, the adoption of standards is not prerequisite to the enforcement.

My purpose in emphasizing this point is to appeal to the head of the Federal Water Pollution Control Agency to give due recognition to this inescapable condition in which the Minnesota Commission finds itself through no fault of its own; whereas this situation does not obtain in Wisconsin or other States that are not subject to that necessity of adopting a standard before the issuance of an enforcement order. We think that due recognition should be given to that situation in the application of these terms of the Federal law, in view of the unavoidable delays to which the Commission is subject in applying those requirements of the Federal law as to what must be done by a certain time in order to have the approval of the Federal Water Pollution Control Administration.

MR. STEIN: Thank you, Mr. Wilson.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, Mr. Smith?

MR. SMITH: The next statement will be from the City of Bloomington.

Mr. Pidgeon?

STATEMENT OF JOHN G. PIDGEON, CITY
ATTORNEY, BLOOMINGTON, MINNESOTA

MR. PIDGEON: Mr. Chairman, Conferees:

My name is John G. Pidgeon. I am City Attorney of the City of Bloomington.

Bloomington, for your information, is located on the south boundary on the Minnesota River from about Mile one-half to about Mile 13.5. It is on the north side of the river. It is a city of about 39-½ square miles, with about 72,000 people. That is up from 12,000 at its incorporation date, 14 years ago.

It should first be stated that these remarks can only be attributed to me because the city received only one copy of the document last Friday and there has not been time sufficient to permit the governing body to circulate, read, discuss and arrive at conclusions relative to its contents.

With all due deference and respect for the obviously dedicated and sincere persons constituting the membership and staff of the Minnesota Water Pollution Control Commission, and despite recognition and admission that, relatively speaking, we are Johnny-Come-Latelys to this problem, Bloomington is one of those seemingly contentious communities which have disagreed with the Minnesota Water Pollution Control Commission's standards and have disagreed with what we consider to be grossly unfair expansion plans for the Minneapolis St. Paul Sanitary Sewer District.

The recommendations of the Federal Water Pollution Control Administration seem generally reasonable and fair.

On page 27 of the General Recommendations, paragraph numbered 1 is the recommendation that "There be no further decrease in quality of any of the waters within the Study Area -- At first I assumed that this might be construed as support for the position of the Minnesota Water Pollution Control Commission as contained and stated in its standards applicable to that portion of the Minnesota River between Shakopee and the confluence with the Mississippi. The so-called standard, with which Bloomington takes issue, as did the previous speaker on behalf of the NSSSD, prohibits the discharge of major quantities of treated sewage into this portion of the river. If the quoted recommendation is intended to support that so-called standard, then I believe it should be clarified to state that support more explicitly.

However, on reflection, and considering the maximum waste loadings for the stretch of the river, Page 32, paragraph numbered 2, under "Specific Recommendations, Minnesota River" it seems that under these recommendations the discharge of effluent into the Minnesota River can be accommodated for some years to come.

Most persons seem to agree that the year 2000 population equivalent for this area which would naturally drain to this segment of the river, Shakopee to the Mississippi, is about 700,000. With treatment at 90 percent (5-day (20° C) BOD and suspended solids) plus continuous disinfectant, the 12,000 pound total allowable waste load can be met. With 95 percent removal which the engineers say is feasible, the 6500 pound total allowable waste load can be met for this population equivalent.

Assuming control and treatment of the discharges from American Sugar and Rahr Malting Company, the engineers are confident that the recommended dissolved oxygen levels can be maintained.

Another statement which seems to leave the door open for so-called regional treatment plants is that on page 22 wherein the statement is made that "Whether the best solution lies in the use of one or several plants is irrelevant."

That statement seems to contemplate that regional plants are an acceptable solution insofar as the Federal Recommendations are concerned and it is assumed that, once coming here, there is as much concern for the health of the people of Minnesota as for those of Wisconsin.

As a general principle, that statement may be accurate. However, considering actual local facts, it seems questionable. New plants could be built so that they would not be subject to periodic flooding as is presently the case with the MSSD plant. New plants, so the engineers tell me, can be built without the bypass. Tertiary treatment, if and when that is called for, can more conveniently and expeditiously be added. There would be less waste loading at one single point and thus the natural assimilative capacity of the rivers can be better utilized. After having read the document entitled Solving Our Water Problems -- Water Renovation and Reuse published by the Federal Water Pollution Control Administration, August 1966, which seems to point the way in years ahead, it seems to me, an uneducated laymen in this field, that the Advanced Waste

Treatment, which they call AWT, techniques can be more readily applied to the regional plants and their application upstream from a great part of the densely populated metropolitan area would be more beneficial to the streams and to the people.

As stated, absent a clarification, it is assumed that new municipal treatment plants on, for example, the lower Minnesota River, are not excluded by General Recommendation No. 1.

MR. STEIN: Thank you.

Are there any comments or questions of Mr. Pidgeon?

DR. JELATIS: Mr. Chairman?

MR. STEIN: Yes, Mayor Jelatis.

DR. JELATIS: I think if you look on Pages 31 and 32 of the Specific Recommendations for the Minnesota River, you will find that there are no specific recommendations given under municipal sources, and the quotation that has been given here comes from the industrial sources and applies only to the American Crystal Sugar Company and Rahr Malting Company.

MR. PIDGEON: It seems to me, if I may say, that as I interpret this document, American Crystal Sugar and Rahr Malting, and any other industrial uses, would have to upgrade to meet the general recommendations. If they do that, then this loading into the river should make it possible for the 700,000 population equivalent which is expected in this stretch of the river by the year 2000 to use this waste loading.

I would assume that those plants would be included in that population equivalent.

As I say, if I am wrong, I would like to know it.

MR. STEIN: Yes. Well, I am learning a lot here from you people.

I think we are faced with a new situation. Let me give it to you as I see it from your testimony and the testimony of the previous speaker.

Before this, when we were setting up these metropolitan area operations, we generally had the core city kind of taking the lead and spinning it out to the suburban communities.

I think everyone knows what happened in the United States in the last few years. This is one of the first ones where we are getting into a little more complicated operation -- where we have all these communities -- and you are one of them -- who want to have a voice in this and not just tie in necessarily to the core city.

When we talked in terms of the other cities all over the United States where they had the metro system, at least the plans for the system were developed and the commitments were made before the developments happened.

We have a very difficult problem here that we are going to have to consider, and this is cumulative.

This is why it pays to get out of Washington and hear all of this, because it never hit me the way it hits me now, though it should have been obvious. I should have known this. I think this presents a very interesting problem.

I have one technical point to ask you. Why do you think that advanced treatment plants can be handled better regionally than in a main plant?

MR. PIDGEON: Well, they are going to be smaller, for one thing.

In that huge plant, as I understand the pilot plant, if that is what it is, that you have in that New York-New Jersey area, that is in the 20 to 30 million gallon per day capacity -- I am not certain of that, but that is what I understand.

MR. STEIN: Let me give you the views that we had on that.

Again, as you know, we are exchanging information and I have an open mind on it.

Our thought and our assumption was that when we got into this complicated stuff in advanced waste treatment, the processes may be so complex we may need the Ph.D.'s and the computer guides and the highly trained technical people and the notion of having individually operated plants -- and I am not talking about regional plants -- might be obsolete because we just would not be able to get the trained personnel to do it.

I am not throwing this out, except that I would like to get your views on this.

If you have a central authority, the wise thing to do might be to have several regional plants, but you would have a core of highly trained technical people that would be able to handle the advanced waste treatment.

Goodness knows, sir, when you are faced with the problems that we have in these small-town plants not being run or operated under the most simple principle, when we think in terms of getting something as complicated as the advanced waste treatment plants, sometimes we shudder to think of where the people are coming from. I would like to get your thkining on that.

MR. PIDGEON: Well, the plant that we are pushing for, if you will, for the three communities, is designed for 325,000 people in the year 2000. That is substantial. We are talking about probably the second largest plant in Minnesota. That is what we are talking about.

We think that a plant of that size and capacity probably would be able to employ the necessary technical personnel.

Now, we are proceeding in the legislature, just for your information, to try and get such a plant. At the same time, we are proceeding in an alternate route, and that is we are pushing our own version for one of those of a metropolitan system, and personally we have no desire to add any empire to our little city down there. We would just as soon be happy if we can get equal representation and equal economic factors.

If we get a fair bill, we would just as soon have them take over our area -- I shouldn't say "just as soon" -- we do prefer our own, but almost just as soon.

We recognize that we are part of the metropolitan area and that it is a major factor there.

MR. STEIN: Thank you.

You know, it seems very anomalous --

MR. PIDGEON: By the way, if I may interrupt?

MR. STEIN: Go right ahead.

MR. PIDGEON: You asked about why we wanted a regional plant. One big reason is that every time we have a flood, and we have them pretty often up here, still that Minneapolis-St. Paul Sanitary District plant is out of commission. The last big flood we had it was out for some sixty days, or so.

Bloomington is presently connected by way of the City of Ridgefield, by way of the City of Minneapolis, by way of MSSD interceptors to that plant right now. We had the privilege of paying the bill for treatment during that sixty-day period that they were letting it all flow down the river.

(Laughter.)

By the way, we are not getting off the line by our own choice either. They have no room for us after about 1970. We have to get off.

MR. STEIN: Again, this is simple, but let me make just one remark.

You know, it seems funny that the industries these days which have been trying to treat their wastes from time immemorial are looking for ways to hook up with the municipal plants, because once they hook up with them they are absolved from the legal and technical responsibility of treating their wastes.

Maybe this is a phase that we are going through in American life. If it is, I think we have to recognize it if we want clean streams and work with industry. I think we should recognize that you have a little different problem here and are trying to do this at a different point in time than the other metro systems were developed. It is going to take some really imaginative thinking and good will on our parts to get that going.

MR. PIDGEON: We are not quite that insolent. We had two years ago at the last Legislature agreed to support a metropolitan bill if we could find one that was fair to us.

Now, it all depends upon whose definition it is, I guess, but we don't just want to run a treatment plant for the sake of doing it, or for the sake of adding personnel, or any such thing, but we do want a fair shake with equal representation.

MR. STEIN: Right. I am sure that is what the issue is.

MR. PIDGEON: That is what everybody wants, but they have different definitions.

MR. STEIN: Yes, sir. Thank you very much.

MR. ODEGARD: With reference to this statement that there shall be no further decrease in quality, this point has come up several times now.

I would like to have a clarification of the meaning of that.

MR. STEIN: Mr. Printz, would you want to answer that?

MR. PRINTZ: Mr. Chairman, as I indicated yesterday in our prepared text, the recommendations were prepared bearing in mind the guidelines for establishing water quality standards for interstate waters. These guidelines were issued by the Secretary of the Interior May 10th, at the time we moved over to the Department of the Interior.

I would like to quote from Policy Guideline No. 1, which states:

> "Water quality standards should be designed to enhance the quality of the water. If it is impossible to provide for prompt improvement in water quality at the time initial standards are set, the standards should be designed to prevent any increase in pollution. In no case will standards providing for less than existing water quality be acceptable."

The background behind this is that pollution in this country has gone far enough that we have established a base line. The base line is the existing water quality. If others are to come in, there should perhaps be additional treatment elsewhere, so that we can maintain existing water quality, the purpose of the Act being twofold, one, to upgrade, and the other to preserve.

MR. ODEGARD: Would this prevent the establishment of new industries?

MR. PRINTZ: We don't feel so.

MR. ODEGARD: Well, this is what I am trying to close in. Part of the standards are suspended solids, and if you are not going to permit any increases in suspended solids, it would have to be 100 percent treatment.

MR. PRINTZ: You say if there are not to be any increases in suspended solids you would need 100 percent treatment, or you would need treatment so that the effluent would be equivalent to the quality of the waters presently in existence?

MR. ODEGARD: Yes.

MR. PRINTZ: May I leave with you a copy of these guidelines (handing same to Mr. Odegard)?

MR. ODEGARD: Thank you.

MR. STEIN: Thank you.

Mr. Smith?

MR. SMITH: I have next a statement from the City of Hopkins.

STATEMENT OF THE CITY OF HOPKINS, MINNESOTA, AS READ BY DONALD J. THIMSEN, MINNESOTA DEPARTMENT OF HEALTH

MR. THIMSEN: This is a statement dated February 24, 1967, by R. L. Brubacher, City Manager.

STATEMENT BY THE CITY OF HOPKINS, MINNESOTA

City of Hopkins, D. J. Thimsen

For the Conference in the matter of Pollution of the Interstate and Intrastate Waters of the Upper Mississippi River and its Tributaries, convening Tuesday, February 28, 1967, at 9:30 a.m., in Minneapolis, Minnesota.

The City Council of the City of Hopkins wishes to take this opportunity to compliment the Study Group and its Director, Dr. Albert Printz, Jr., on their study of the 270 miles of the Upper Mississippi River and its major tributaries. We feel the study was very objective and attempted to reflect a true picture of the conditions of the 270 miles of river included in the study project.

As interested and concerned residents of the area involved in the project study we sincerely hope that the Commission will continue its efforts to improve the quality and recreational possibilities and natural beauty within the study project. We sincerely hope that the conferees will give serious consideration of high rate phosphate and nitrate removal treatment requirements of all wastes discharged to these rivers. The conservation and improvement of all our natural resources is a concern of all citizens and we urge the conferees to proceed with their further studies and abatement programs as speedily as practical.

We appreciate the opportunity to present our statement to the distinguished panel.

Sincerely yours,

/s/ R. L. Brubacher

City Manager

MR. STEIN: Thank you very much, sir.

Are there any comments or questions?

MR. DAMON: Where is Hopkins?

MR. STEIN: Where is Hopkins? Could you locate it on the map, please? Would you come up?

MR. THIMSEN: It is located just west of Minneapolis, right about where the "N" is here.

MR. STEIN: Thank you.

Mr. Smith?

MR. SMITH: The next statement is from the Commissioner of Public Works of the City of St. Paul.

Is there anyone here to read this statement?

(No response.)

MR. SMITH: Mr. Ginner?

STATEMENT OF ROBERT F. PETERSON, COMMISSIONER OF PUBLIC WORKS, ST. PAUL, MINNESOTA, AS READ BY GARY GINNER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER: Statement of Robert F. Peterson, Commissioner of Public Works, Saint Paul, Minnesota, dated February 28, 1967.

R. F. Peterson by G. Ginner

The City of Saint Paul on February 7, 1964, presented to the first session of this conference a statement of views and activities concerning sewerage and the Mississippi River in the Saint Paul area. That previous statement expressed very well our views and objectives and recognized our responsibilities as one of the communities located along the Mississippi River. As set forth in this previous statement, we have a great deal of interest and concern that our water resources be adequately protected and preserved. We are willing and anxious to cooperate with others to the greatest extent possible and financially feasible to attain these objectives.

As for detailed comments on your report entitled "Summary and Pollution Abatement Recommendations for the Upper Mississippi and Major Tributaries," I wish to point out that the sanitary sewage waste from our municipal sewer system is handled and treated by the Minneapolis-Saint Paul Sanitary District. This organization either has or will present to this conference a detailed statement on its activities. The City of Saint Paul has worked closely with the Minneapolis-Saint Paul Sanitary District and concurs with the comments and recommendations of this Sanitary District.

I might add, however, that we in Saint Paul were somewhat disappointed that recognition was not made in your report of the 27.1 million dollar improvement to the Minneapolis-Saint Paul Sanitary District's sewage treatment plant, even though this plant modification was conspicuously under construction during your survey period. The placing of this plant improvement in operation will have a dramatic effect on pollution conditions, particularly those portrayed in Figures 9 and 10 following Page 7 of your report.

In addition to the operation of the treatment plant, a matter of considerable concern to us, as well as others, is the occasional overflow from the combined sewer system. During the course of the year, some 4 percent of sewage does overflow through the operation of the overflow regulators during periods of high storm water flows. As was indicated in our report of 1964, the rebuilding and operational changes in these regulators is underway. In order to aid in the coordination of the betterment program and to simplify the financing of it, both Minneapolis and Saint Paul have transferred responsibility for the regulators to the Minneapolis-Saint Paul Sanitary District in order to minimize the overflow of raw sewage from these regulators. The Minneapolis-Saint Paul Sanitary District is developing concepts and procedures which are relatively new. A Federal demonstration grant has been obtained from the

Federal Water Pollution Control Administration. This program will ultimately involve some two million dollars of expenditures financed by the cities of Minneapolis and Saint Paul and we are confident that its completion will bring about significant improvements in pollution control.

In addition to collaborating and supporting the treatment plant and regulator improvements, it is the continuing goal of the City of Saint Paul to replace combined sewers with separate storm and sanitary systems. Wherever the opportunity occurs whether in redevelopment or relief sewer construction, new systems are designed as separate sewers or are designed to be compatible or adaptable to separation at some future date. Sewers being constructed in the few remaining unsewered areas in the city are designed as separate systems. Complete separation of all of the presently sewered areas is a very costly undertaking and one that appears to be beyond the financial capabilities of the city at this time. However, we do plan to continue these activities to the maximum extend possible and many millions of dollars are being spent for this sewer work, all as set forth in our 1964 report.

In closing, Mr. Chairman and ladies and gentlemen, I would like to again emphasize that we are very much aware of the problem of maintaining proper river water qualities in the Mississippi River. Saint Paul has and will continue to cooperate with other interested parties in controlling and reducing water pollution to the greatest extent that we can.

Thank you very much.

/S/ Robert F. Peterson

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, Mr. Smith?

MR. SMITH: I have one more from the Board of Water Commissioners of the City of St. Paul.

Is there someone here to read this statement?

(No response.)

MR. SMITH: Mr. Thimsen?

STATEMENT OF BOARD OF WATER COMMISSIONERS, CITY OF ST. PAUL, AS READ BY DONALD J. THIMSEN, MINNESOTA DEPARTMENT OF HEALTH

MR. THIMSEN: Statement of the Board of Water Commissioners of the City of St. Paul.

For presentation by Mr. Clifford W. Hamblin, General Manager, St. Paul Water Department, February 28, 1967, at 9:30 a.m., at the Leamington Hotel, Minneapolis, Minnesota, at the second session of the Federal-State conference in the matter of pollution of the interstate and intrastate waters of the Upper Mississippi River and its tributaries.

Mr. Chairman:

Board of Water Commissioners, City of St. Paul, by D. J. Thimsen

The Board of Water Commissioners of the City of St. Paul, whose responsibility it is to provide a potable water to the population of St. Paul and all adjacent suburbs thereto, are most vitally concenerd with the sanitary qualities of the Mississippi River and its tributaries. The Mississippi River and waters of the Rice Creek watershed, a tributary of the Mississippi River, are utilized as sources of the St. Paul water supply system. Our intake on the Mississippi River is located in the City of Fridley and on the Rice Creek watershed in the Village of Centerville on Lake Centerville. We believe it imperative that all possible means be taken to control pollution above these intakes to safeguard against any sanitary hazard that could be harmful to our water supply system.

The Federal Water Pollution Control Administration's Summary Report recommends that wastes such as sludge from our water treatment plant which discharges into a municipal sewerage system be pretreated to avoid any detrimental effect on waste treatment operation. We are pleased to report that the Board of Water Commissioners completed a construction project in the fall of 1966 by which the sludge lagoon dikes were raised to an elevation sufficient to give us approximately five years more of sludge and storage capacity. The overflow elevation has been raised. This allows maximum sedimentation of sludge solids in the lagoon before the supernatant overflows into the sewerage system. The effective life of the lagoon, of course, can be extended by excavation of dried sludge from the lagoon with truck haulage to the dump sites. In addition, the Board has submitted an application to the United States Department of Housing and Urban Development for a grant to aid in the financing of major improvements at the water treatment plant, including facilities for reclaiming filter backwash water and lime recovery from sludge. In this regard a preliminary engineering report has been completed on such facilities. Notification of grant approval will enable us to authorize immediate preparation of construction plans and contract documents followed by actual construction.

Provision of filter backwash water reclaiming and lime recovery will satisfactorily provide for all wastes from the plant for the foreseeable future.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, we will stand recessed for ten minutes.

(Whereupon a recess was had.)

MR. STEIN: May we reconvene? I think we may be approaching the last lap.

Mr. Smith?

MR. SMITH: Are there any other industries and municipalities represented here who wish to make a statement who have not been called upon?

(No response.)

MR. SMITH: If not, we have some civic organizations and sportsmen's clubs who have indicated that they wish to make a statement.

The first one is the Natural History Society. Is there someone here to read their statement?

(No response.)

MR. SMITH: Mr. Ginner?

STATEMENT OF THE NATURAL HISTORY SOCIETY, AS READ BY GARY GINNER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER: For the Conference on Pollution of the Interstate and Intrastate Waters of the Upper Mississippi River and Tributaries (Minnesota-Wisconsin). Called Tuesday, February 28th, 1967, at 9:30 a.m., in Minneapolis, Minnesota.

Natural History Society, by G. Ginner

We the members of the Natural History Society have habitually opposed the contamination of air, water and soil by unwise use of chemicals and indiscriminate dumping of household and industrial wastes. It is our belief that comprehensive research must be conducted to prevent unnecessary pollution of these most important natural resources for the good of all living things. Further we believe that a massive attack by local, State and National governments coordinated with individual and industrial effort must be made to alleviate scandalous dimension of the present pollution. We believe that standards must be established to protect the populace of these United States as evidenced in the pollution of both air, water and soil in the State of Minnesota, and specifically in the Watershed of the Mississippi and its tributaries as herein designated.

In view of the seriousness of phosphate and nitrate contamination of these waters we recommend a special process for their removal from all waste discharged into these waters. In view of the recreational potential of these waters and the necessity to maintain the purity of these waters at such a level that human, fish and wildlife may safely use them we strongly urge that such steps be taken to maintain that purity. We believe that a deviation from these standards is both undesirable and unnecessary and that the responsibility rests squarely upon citizen and government and pledge that we will assist the agency or agencies responsible for such standards.

We feel privileged to make this statement and acknowledge our responsibility in arriving at a desirable end so badly needed now and in the future.

Dr. Clayton G. Rudd, President
/S/ Clayton G. Rudd

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, Mr. Smith, will you continue?

MR. SMITH: The next statement is from the League of Women Voters.

Is someone here to present that statement?

STATEMENT OF MRS. WILLIAM WHITING, PRESIDENT OF THE LEAGUE OF WOMEN VOTERS OF MINNESOTA

MRS. WHITING: I am Mrs. William Whiting, President of the League of Women Voters, and I have a statement prepared by our Water Resources Chairman, Mrs. Mann. I believe you have copies of it.

Mrs. Wm. Whiting

The League of Women Voters of Minnesota would like to thank the Minnesota Water Pollution Control Commission for the invitation to participate in this conference. That members of the League of Women Voters have had a continued interest in water resources for the past ten years is well-known to most of the people here today.

Recently, League members nationwide participated in further study of water resources, focusing their attention on the problems of industrial pollution abatement. Study and discussion by local Leagues built up an impressive amount of information on what members think about the many aspects of water pollution control.

Realizing that there are over 6,000 women in local Leagues in Minnesota alone who are asking questions, going on tours and discussing water resource problems with their families and friends as well as with other League members, it could be said that there is an aroused public interest in this field. There was not a tendency to blame someone for pollution, for members obviously recognized that the time for finger-pointing is past and the time for action is now.

As a result of member consensus, the following statement of position on Federal financial assistance to industry to expedite control of water pollution was released by the League of Women Voters of the United States in January 1967.

> "The League of Women Voters of the United States supports limited Federal financial assistance to industry as a means of expediting abatement of water pollution.
>
> Although the League thinks that costs of pollution abatement are a responsibility of the polluter, it acknowledges that some help should be made available because of the urgency and immediacy of the problem and the immense costs involved. League members agree that:
>
> 1......strict enforcement of anti-pollution measures should accompany financial assistance.
>
> 2......duration and scope of assistance should be limited.
>
> 3......criteria for assistance should include consideration of financial need of the company, economic base of the community, area stream standards, extent and complexity of the pollution problem of the company and region."

(National Voter, League of Women Voters of the U.S., Vol. XVI, Feb. 1967.)

Mrs. Wm. Whiting

From the comments of Minnesota Leagues, it was obvious that members were concerned that water quality standards be enforced and that the several levels of government work out the most effective manner possible for setting and enforcing standards.

A majority of the Leagues checked out their own communities to determine the status of local municipal and industrial waste treatment facilities. Some were pleased with the progress that had been made, others were not so happy. Members of the Red Wing League of Women Voters met the challenge of the local editor and took a trip by barge up the Mississippi to St. Paul. This was reported in a full-page newspaper article with pictures. It was probably a wise decision not to do this by canoe as was originally suggested. The Summary Report of the Task Force supported that decision.

In the Twin Cities metropolitan area, Leagues reviewed proposals for a metropolitan sanitary district. No decision was made about such details as how this should be financed. It was apparent, however, that League members recognized that there must be some coordinating body established. This has been discussed here all day. This same idea is expressed very well on Page 22 of the Summary and Pollution Abatement Recommendations under Metropolitan Problems.

Because it is recognized that the enforcement of pollution control is a tremendous task whether it is done at the State or Federal level, the League of Women Voters testified before the Appropriations Committees of the Minnesota Legislature supporting adequate funds for staffing the Water Pollution Control Commission. Until budget requests are realistically met, demands for improved water quality and stricter enforcement by the public and by law cannot be carried out. Even more basic to these decisions is a lack of information regarding alternatives. What effect the standards will have in respect to demands for recreational needs in the metropolitan area is an example. We turned to agencies staffed by engineers to take care of polluted water. Now we are beginning to ask about the total regional impact of pollution, the real economic and amenity costs of it. There has appeared to be little comprehensive analysis. Perhaps the engineers feel they have more than enough to answer without taking on these additional responsibilities, but who then is to provide this information.

There are increasing and varied demands for clean, open water, that suggest far heavier demands in the years immediately ahead. There is a growing and deeprooted concern about the quality of our environment and the threats to this quality from the wastes of an expanding technology. With the increased affluence of our society there has been a recognition of the values of preserved outdoor amenities and aesthetically attractive surroundings. To complicate the matter further, there is still a marked movement of the population to metropolitan areas, increased demands for material goods, and increased leisure for recreational pursuits. The continued strengthening of pollution control legislation attests to the concern of the people that something has to be done. It appears it is time for effective action. We can no longer treat water as a free good that is used but once and discarded.

In the field of water pollution, people are in need of information, of alternatives. Public support behind pollution control orders will prove to be the most effective sanction. It is in this arena of activity the League of Women Voters, through membership education and interest, will continue to contribute toward improvement of water quality. Thank you.

MR. STEIN: Thank you. Do you want the rest of these statements inserted in the record?

MRS. WHITING: Yes. That is why we presented them.

MR. STEIN: These will be inserted as if read.

(The following documents were submitted for inclusion in the record:

LWV of Minnesota, State Organization Service, U. of M.,
Minneapolis, Minn. 55455

EXCERPTS FROM REPORTS OF LOCAL LEAGUES OF INDUSTRIAL POLLUTION IN THEIR COMMUNITIES

Owatonna: Our city engineer said our industrial pollution was well taken care of. Industry can dump a certain amount of waste into local sewage plant. If they go over the amount allowed they are assessed by the city. Local plants use chemicals to treat waste and some plants have built area dumping lots near their plants. Industry pollution is being checked constantly by city engineer. Our local sewage plant has been adequate but we are adding another new addition.

Willmar: The pollution of the lakes by the railroad, state hospital and home owners has been stopped and for quite a while. All business and the State Hospital use the Municipal Sewers. There are two businesses -- Central Dairy and Farmers Produce that use a great volume of water in their business and dump a great quantity of water (I would guess quite pure) into the storm sewer system and thus get a reduced commercial rate. Business that uses water for air conditioning in the summer has its water rate adjusted. Business and private home owners and renters pay a sewer charge based on the amount of water they use for selected months of the year. The sewer plant is becoming too small and there are plans in the future to expand it and move it as the new junior high school will be built in the farm land across the road. There are large areas which have septic tanks which will no doubt be joined to the city sewer system. There are no large problems as to my knowledge.

St. Paul: Probably the worst example in this city is the sewage discharge from the meat-packing plants in South St. Paul. This sewage is given only primary treatment before going into the Mississippi River. No solution to this situation appears to be developing at present.

Edina: I asked George Hite, our Village Engineer for Edina, if there were any cases of industrial pollution in Edina. At this time, there are no industrial polluters in Edina. A few years ago there was a problem with a dairy, but this was resolved when the dairy was connected to the municipal system. Edina has 13 wells providing water. Edina contracts with the Minneapolis-St. Paul Sanitary District for sewage removal. Mr. Hite stated that the Village did not mind the present charges for sewage disposal but did dislike the lack of representation.

Anoka: No industrial pollution. Anoka State Hospital (on Rum River which drains into the Mississippi) was a major offender until 1956 when it went into the City of Anoka secondary treatment plant.

The City of Anoka faces a necessary expansion of its plant. Anoka takes care of the State Hospital, Mercy Hospital in Coon Rapids, and the village of Champlin also. A study group has reported and no doubt concrete plans will be forthcoming.

Coon Rapids: No known industrial pollution. Member of N.S.S.D. Coon Rapids is being sewered via interceptors to Pigs Eye. 1/3 is now sewered and no date for completion but work is proceeding and plans are laid out for the entire city that can be feasibly sewered.

St. Anthony Village: Our sewage is transported to Pigs Eye - felt there was need for more favorable or fair way of costing for any community, not necessarily only our own. Ideally, effluent charges would be most fair when and if possible.

Silver Bay: We are very fortunate not to have a pollution problem in our community.

Mrs. Wm. Whiting

Northfield: We did a brief survey of our Canon River situation, talking with the City Engineer, County Planning and Zoning and Health officials, local businessmen, and members of interested groups. All industries in Northfield are connected to the municipal sewage treatment plant, so that there is no local problem. The river, however, is polluted from various sources upstream, and we suffer from their folly. As of now we have only been able to write a few letters of protest as individuals. If we decide to do a local study on this, of course, much more will be done.

St. Cloud: The St. Cloud area Metropolitan Planning Commission, St. Cloud Health Dept., and League of Women Voters sponsored an Environmental Health Study, just recently completed. Included in this study was a survey of all water and sewer systems, contamination, and systematic recording of all pollution, private, governmental, and industrial, along the Watab, Salk and Mississippi Rivers. The results of this survey were used in our discussion, and will be published within the next couple of months, with recommendations hopefully being acted upon at that time.

Worthington: Worthington completed a new sewage disposal plant about 3 years ago without any State or Federal assistance. This modern plant combines both primary and secondary treatment of the effluent.

We have two major industries, Armour's and

Campbell Soup. The City spent $500,000 more just building lagoons and a sewer line for Armour's which processes hogs. The retirement of cost, maintenance and operation of the disposal plant is paid by the users. Private individuals pay monthly 75 percent of their average water bill for the months of January through March. Commercial establishments pay a straight 75 percent of their monthly water bill. Armour's and Campbell Soup pay 50 percent of their monthly water bill. Since they use two-thirds of the water pumped each day, they pay a major part of the operation. The sewage of these companies goes through grease pits where the grease is skimmed off before the effluent enters the disposal plant. This has been a reasonably satisfactory solution to the local problem.

New Brighton: There have been reports at various times of pollution of Long Lake by rendering plant and/or land fill dumps. Local government has ordered this stopped.

Most of the village is served by sanitary sewers.

Albert Lea: Albert Lea has adequate sewage treatment now. A study made by local interested citizens, state and local authorities several years ago has resulted in dredging of the lake and the establishment of a sewage system in a new housing area. Our largest industry, the Wilson plant, has its own excellent treatment plant, established as a result of local pressure and the State WPCC. If Albert Lea grows our treatment plant will not be adequate and there are some outlying areas of pollution now.

Bemidji: There is no particular problem in the local system. The disposal plant is adequate up to a 20 percent population increase. An additional fill would bring the sewerage disposal up to peak position.

Perhaps private homes on the lake shore of Lake Bemidji could raise the bacterial count.

A study of the Nu-Ply Corporation Report is attached to this sheet which shows, at present, no industrial pollution.

Most "polluters" are private citizens.

Arden Hills: Ours is the problem of the Metropolitan Sanitary Sewer District. Shoreview area has very little industry. We are as a group studying the publication Metropolitan Sanitary Sewer District in 1967.

Fridley: Fridley residents are making sure safeguards will be taken to protect and maintain the natural beauty of Rice Creek as it flows five miles through Fridley into the Mississippi River. Concerned citizens began discussing the problem of water control last spring when the water level went higher than it had for over sixty years.

At a recent organizational meeting, by laws for the Rice Creek Association were adopted and officers elected.

The association, which is limited to Fridley residents, formally declares its purpose "to preserve, maintain, protect and promote the natural beauty and constant uniform flow of Rice Creek." However, it seriously is considering the need for a watershed district to help eliminate uneven and excessive run off from upstream areas. The Rice Creek Watershed District, if created, would most likely include some 25 communities, taking in 190 square miles.

Golden Valley: Golden Valley, according to the village engineer, doesn't have a water pollution problem. We have no industries that discharge effluent of any great quantity into our city sewer system and there aren't any streams large enough to be used for carrying away waste.

Austin: Austin has no industrial sewage problem because the Geo. A. Hormel Co., our biggest industry, is paying two million dollars for a sewage treatment plant for the city. The city built it and by so doing the Hormel Company does not have to pay property taxes on the plant. Our worst problem is the pollution of several streams by cess pools and direct drainage from out of city limits homes. These are gradually being cleaned up as new areas are brought into the city. Strict enforcement of present laws would help speed up this trend. Until the streams are free of sewage, our one lake is unfit for recreation.

Columbia Heights: We have no industrial water pollution. City officials have watched closely air pollution. Recently they requested Cargill to use equipment to stop flax dust.

Moorhead: We are just now building a municipal addition to our sewage disposal plant (mechanical) with a Federal grant of 1/3 of the cost. One of our offenders, a creamery, will be included under the municipal facilities, and will pay user charges. Another offender, a sugar beet plant, will not be included, as it is outside of the municipal plant's limits, and so will continue its systematic method of polluting our river. This influences our strong attitude about enforcing the laws currently on the books rather than inducing the companies to comply.

Hibbing-(Chisholm): Hibbing has no problem at this time.

Chisholm just corrected their raw sewage disposal.

Was told our neighbor to the west, Nashwauk, empties raw sewage in a lake.

Granite Falls: Local problems are handled by local taxes and our industrial plant. Plews Oiler Company has their own controlled system which partially purifies water before it goes into the municipal system.

Brooklyn Center: Brooklyn Center does not have an industrial pollution problem. If in the future industrial waste should become excessive, local ordinance requires pre-treatment of sewage.

(Brooklyn Center has a contract with the Minneapolis - St. Paul Sanitary District. Industry uses this disposal system.)

* * *

LWV of Minnesota, State Organization Service, U. of M.,
Minneapolis, Minn. 55455

EXCERPTS FROM REPORTS OF LOCAL LEAGUES ON A STUDY OF POLLUTION ABATEMENT INCENTIVES

From the consensus reports on the national consensus it appears that the role of the state was seen as mainly enforcement and setting water quality standards.

Nearly all members agreed that the state needed a stricter enforcement program. It was suggested that more

Mrs. Wm. Whiting

personnel be hired for the W.P.C.C. Approximately 1/3 of the units recommended an effluent charge. They felt that an effluent charge would compel industries to install pollution abatement equipment. Also, the money collected could be used to finance municipal treatment facilities for industrial wastes.

Some felt that the state needed more uniform standards of water quality. There was a strong feeling that the members wished to keep control of the water pollution problem at the state level rather than at the Federal level.

Members recognized the difficulty here as involving competition between states for industry. Although we view the problem of pollution on interstate waterways as a national concern, three of five units thought the state should consider some type of tax relief or incentive.

We did, however, include the role of the state in the over-all problem of pollution abatement in our discussion. The general feeling was in favor of greater coordination and cooperation between Federal, state and local agencies with special emphasis on planning for River Basin or Water Management districts, representing all areas of the state.

Strict enforcement at all levels as soon as the water standards are set. Those in favor of aid by government felt that this should be at the Federal level for uniformity, with state cooperation.

We advocate uniform state legislation and good enforcement policies. It was suggested the pollution problem be alleviated through existing state and Federal agencies, rather than creating a new separate devl. Legislation to prohibit raw sewage from ships and boats on Minn.'s waterways is in order. Perhaps realistic, higher user charges to both domestic and industrial users would help to preserve this dwindling, precious commodity. Recognition via the news media should be devoted to those industries successfully making gains in pollution control.

We all felt that Federal control would provide consistent treatment to all companies, would eliminate the threat of losing industry to other locations, and would provide an enforcement agency for the states. We did not have enough time to develop the state's position but all felt that the Water Pollution Control Commission should work to its fullest capabilities.

Enforcement legislation should be on uniform Federal basis.

Standards for water pollution control should be in effect in all intra-state waterways.

Members felt that stricter enforcement of present laws and regulations would force industry in our state to clean the water they use.

We feel Federal "sticks" are mandatory. State may participate under the Federal organization and enabling legislation.

* * *

LWV of Minnesota, State Organization Service, U. of M.,
Minneapolis, Minn. 55455

STATEMENT PREPARED BY THE LEAGUE OF WOMEN VOTERS OF MINNESOTA FOR THE SUBCOMMITTEE OF THE MINNESOTA SENATE FINANCE COMMITTEE HEARING ON THE 1967-9 BUDGET OF THE MINNESOTA DEPARTMENT OF HEALTH

The League of Women Voters of the United States has been concerned with the problems of water management since the topic was first placed on its national study agenda in 1956. Our members have worked to support comprehensive long-range planning for conservation and development of water resources and improvement of water quality. In order to better understand the intergovernmental problems of water resource planning, we have twice published studies in Minnesota surveying the work of the Water Pollution Control Commission (KNOW YOUR RIVER BASIN SURVEY, 1960; ON THE WATERFRONT, Mpls. League, 1965). We have followed with interest the Commission's efforts to establish quality standards for our interstate waterways as required by the Federal Water Quality Act of 1965, for which our League lobbied in Washington.

Representing the 69 Leagues of Minnesota, we are today concerned with the problem of adequately financing the work of the Water Pollution Control Commission's staff in the Department of Health. In 1965, the staff's wide range of charges included study of the quality of waters in the state; review of plans and issuance of permits for construction and operation of municipal and industrial waste disposal facilities; investigation of pollution reports; administration of certain grant provisions of the Federal Water Pollution Control Act; and cooperation with local, state and Federal agencies concerned with state water pollution problems. Even at that time these duties proved too numerous for the budgeted staff of 35 to maintain frequent and regular surveillance of water quality conditions throughout the state.

With the passage of the Federal Water Quality Act of 1965, the duties of the Commission were expanded to provide for adoption and implementation of water quality criteria for interstate waters. Such criteria are to be established by June 30, 1967. Although the Water Pollution Control staff obtained money to support 5 new positions between 1965 and 67 from a Contingency Fund through the Legislative Advisory Committee, the enormous amount of time required to make background studies and conduct hearings for the establishment of water quality criteria has continued to deny coverage of the Commission's legislated range of activities. Standards have now been set for portions of the Mississippi River and for the Minnesota, Red, and Rainy Rivers, but much is left to be done to complete the job and the problem of implementing those standards which have been set has not been covered.

Data compiled in 1964 by the Public Administration Service, Chicago, under contract with the U. S. Department of Health, Education and Welfare show that the minimum staff necessary to operate the Minnesota WPCC would number 58. Desirably, the staff should number 104. These figures were recommended before the 1965 Water Quality Act enlarged the Section's obligations.

In the requested budget of the Department of Health for the 1967-9 biennium, the Section on Water Pollution Control asks for funds to support a total staff of 65. The Governor's recommended budget grants funds which would support only the 35 persons employed by the Section in 1965. It would, according to the Section's Executive Engineer, not cover the 5 positions recently authorized by the Legislative Advisory Committee.

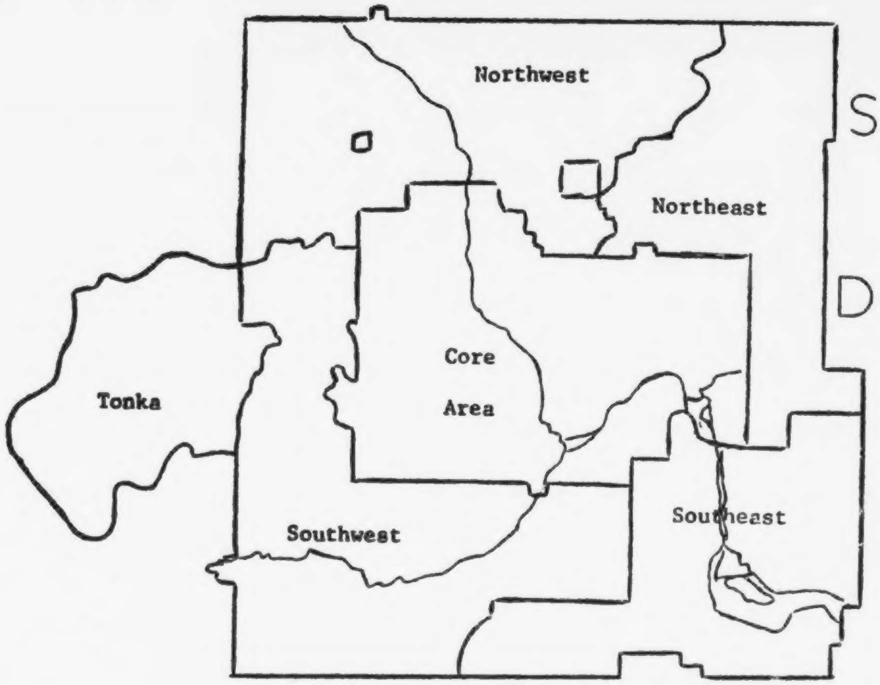
Of the 40 positions authorized at the end of 1966, 13 positions are now vacant, primarily because the Commission is unable to meet salary competition. Because of lack of budgeted funds, the Civil Service has not allowed flexibility in setting initial salaries at higher steps than classified, thus lowering the Section's competitive status in hiring professional personnel vis-a-vis both industry and pollution control agencies in other states.

According to the February 10, 1967 Minneapolis TRIBUNE, a long-awaited study of the Twin Cities area, Upper Mississippi River Basin by the Federal Water Pollution Control Commission will be published February 28 in conjunction with a Federal pollution enforcement conference in Minneapolis. The study is reported to recommend a three-year timetable for cleaning up the rivers from Mankato and Anoka to Red Wing which are "now too polluted for even limited human contact activities such as boating... If this timetable is adopted by the conference and the Secretary of the Interior, it will be returned to the WPCC and its Wisconsin counterpart, which must then act to insure that the proposed water quality standards are met." . . . "If the state agencies fail to act, the Federal government can intervene."

The League of Women Voters feels that it is pointless to assign additional responsibilities to the Commission without increasing funds to hire the people to do the work. We urge that the Minnesota Legislature grant the Water Pollution Control Commission and its staff the funds to enable it to properly accomplish its tasks, of the utmost importance to the health and welfare of our citizens and to the attractiveness of the state as a national recreation area.

* * *

A METROPOLITAN SANITARY DISTRICT IN '67?


Northwest
Northeast
Tonka
Core
Area
Southwest
Southeast

A Review of Past and Present Proposals For A

Twin Cities Metropolitan Sewage District

October 1966

Prepared by the Ad Hoc Metropolitan Water Resources Committee
of the Minnesota League of Women Voters

Mrs. Wm. Whiting

The League of Women Voters of the United States has been concerned with the problems of water management since the topic was first placed on its national study agenda in 1956. In 1960, the national position was stated by its members as follows:

> "Support of national policies and procedures which promote comprehensive long-range planning for conservation and development of water resources and improvement of water quality. Among these policies are: a) better coordination and elimination of conflicts in policy at the federal level; b) machinery appropriate to each region which provides coordinated planning and administration; c) cost sharing by government and private interests in relation to benefits received and ability to pay."

The League has strongly emphasized within this position the importance of citizen participation in consideration of alternative plans for water development. The people who will have to live with the resulting development should be able to make choices before irrevocable decisions are made. This study of metropolitan sanitary district proposals for state legislation has been prepared to enlarge the understanding of all Minnesotans concerning some of the available methods of satisfying metropolitan sewerage needs.

INTRODUCTION

Since the creation of the Minneapolis-St. Paul Sanitary District (MSPSD) by the 1933 State Legislature, the Twin Cities have been provided with sewage disposal facilities ahead of those in other large Mississippi River cities. The rapid growth rate of the Twin Cities metropolitan area, however, now requires the extension of equally good disposal systems to unsewered suburban areas.

The authorized limits of the present MSPSD are those of the two core cities, Minneapolis and St. Paul. Areas adjacent to the cities may contract with either city or the District for disposal service. At present, there are 39 such contracting areas. These contracting communities are not represented on the governing board of the District, and therefore cannot resolve fee inequity except through the courts.

The Twin Cities metropolitan population is estimated to be 4,000,000 by the year 2000. At least 77 suburbs will require new or expanded sewage treatment facilities by that date. Concerned parties have seen that required expansion should be undertaken by a responsible agency representative of the total area which would insure a coordinated, long-range program of safe and proper waste disposal in waters which are continually overtaxed by multiple uses. Such an agency should select those plans for expansion which result in the least cost to the metropolitan area as a whole and affect the area in a uniform manner.

An incentive for cooperative planning has recently been provided by the Federal Water Quality Act of 1965. A 10 percent bonus in Federal grant funds is available under the Act for community sewage works construction "that is part of a comprehensive metropolitan development plan."

Proposals for state legislation establishing a metropolitan sewerage agency have been advanced and defeated before each session of the Minnesota Legislature since 1961. In preparation for the '67 legislative session, sewer study committees and civic groups in the core cities and suburbs are aligning themselves behind specific proposals. Based on the experience of past sessions, there is little possibility for passage of sewage district legislation until 1) a clear majority of metropolitan legislators agree on basic formulas concerning the financing, administration and geographical area of a metropolitan sanitary district; and 2) legislators from the state as a whole are stimulated to take action on the metropolitan sewerage problem.

HISTORY OF METROPOLITAN SANITARY DISTRICT PROPOSALS

In 1927, the Minnesota State Legislature created the Metropolitan Drainage Commission to investigate and recommend alternative solutions for the abatement of pollution caused by the discharge of untreated sewage into the water courses of the area. All of the early trunk sewers, some dating back to 1870, were routed directly to the river. By 1930 the total outflow capacity of all outlets in the Twin Cities area was two and one-half times the average flow of the Mississippi River.

The Drainage Commission studied some forty alternative projects. The project selected as most desirable was a system of intercepting sewers (intercepting=serving more than one area) terminating at a single treatment plant for both cities, located downriver from the center of population at Pigs Eye Island in Southeast St. Paul.

The Legislature in 1933 established the Minneapolis-St. Paul Sanitary District to provide the system of sewage collection and treatment recommended by the Drainage Commission. From 1933 to 1940, the District expended over 10 million dollars for the construction of those works which today would cost over $50 million. The facilities constructed at that time were designed to serve only about 122,000 acres as compared with the present area of about 250,000 acres. Primary treatment removing an estimated 35 percent of the "pollutional load" of the sewage was effected before the effluent (residue) flowed into the Mississippi. The District was, and is, governed by a Board of seven trustees: three from each central city and one appointed by the Governor as a member outside the District.

The post-World War II housing boom so rapidly increased the size of the metropolitan community in both area and population that the design boundaries which originally were thought to be adequate until 1970 were surpassed in the late 1940's. In addition, many of the suburban fringe communities developed without regard for the availability of public sewerage systems. This growth created an urgent need for additional sewer capacity with a backlog of homes which were struggling to get by with individual disposal systems, often in soil conditions which would not support this means. (Between April, 1959, and December, 1961, Department of Health surveys revealed that in 39 suburbs 47.5 percent of private home water wells showed evidence of contamination by sewage). As communities began contracting for MSPSD service, Minneapolis found it necessary to undertake major construction projects for the exclusion of storm water (street and roof drainage) from its major trunk and interceptor sewers to provide capacity for additional amounts of suburban sewage.

The "design flow" of the Pigs Eye plant of 134 million gallons a day was reached in 1952, fourteen years after the plant went into operation.

The Five-Year Study

In 1956, the Board of Trustees of the Sanitary District authorized a five-year $500,000 program of research and investigation to determine the requirements until the year 2000 for metropolitan sewage works expansion.

The approximate dimensions of the area studied were 34 miles north and south and 30 miles east and west, an area of over 1,000 square miles. In addition, the studies included a 114 square mile area surrounding Lake Minnetonka. Eighty-two separate city, village or township units were situated within the main study area, with 21 more in the Lake Minnetonka Area.

To facilitate the development and presentation of a plan of sewage works projects, the area was divided into six major units referred to as regions (seen on map on page 567). The regional limits were based on such factors as topography, political boundaries, expected direction of population growth, and location and capacity of existing works.

The more than 200 combinations of projects considered under the Five-Year Program were finally resolved into four alternative Metropolitan projects. Two of these projects were based on conveying the area's sewage to one central treatment plant at the Pig's Eye Island location, while the other two involved using one or two regional plants on the Mississippi and Minnesota Rivers in addition to the central plant on the lower river. The Lake Minnetonka Region was excluded from consideration as part of a metropolitan district in these final reports (see section on Geographical Area of the District, page 15). No consideration of political reorganization of a district board in order to give equitable representation of the regions was reported in the published results of the Five-Year Study, September, 1960.

As the Five-Year Study was concluded, the 1961 Legislature voted on a bill which would have created an expanded Metropolitan Sanitary District. The bill passed the House but died in the Senate. Recognizing, however, the crucial needs for sewerage systems in the suburbs, the 1961 Legislature passed a bill which enabled a group of five northern suburbs (Blaine, Coon Rapids, Fridley, Mounds View, and Spring Lake Park) to form their own regional Sanitary

District (NSSD - Northern Suburban Sanitary District, further described on pp. 15, 17, 18).

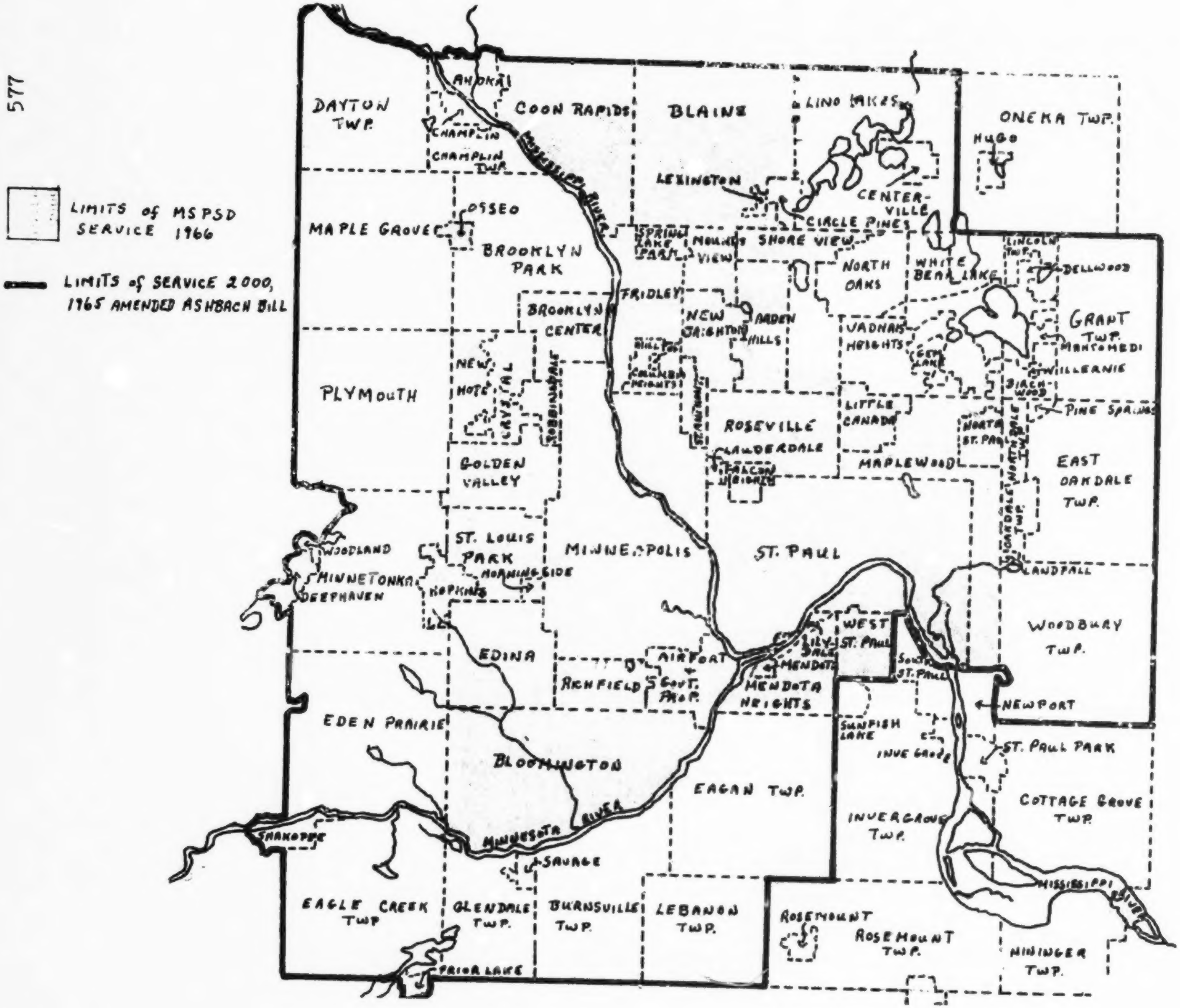
With the failure of the 1961 metropolitan bill, the Trustees of MSPSD decided to proceed with the improvements necessary to handle present and future demands of the area the District was then serving: the two central cities and 24 contracting areas. In 1962, a $22.8 million expansion was begun at the Pig's Eye plant. Operational in 1966, it provides secondary treatment (biological treatment of sewage after primary sedimentation treatment) with high-rate activated sludge process. This treatment increases the removal of the "pollutional load" from 35 percent to 75 percent. Destruction of coliform bacteria (counts of which are used as a standard indication of pollution) has increased from 50 to 99 percent.

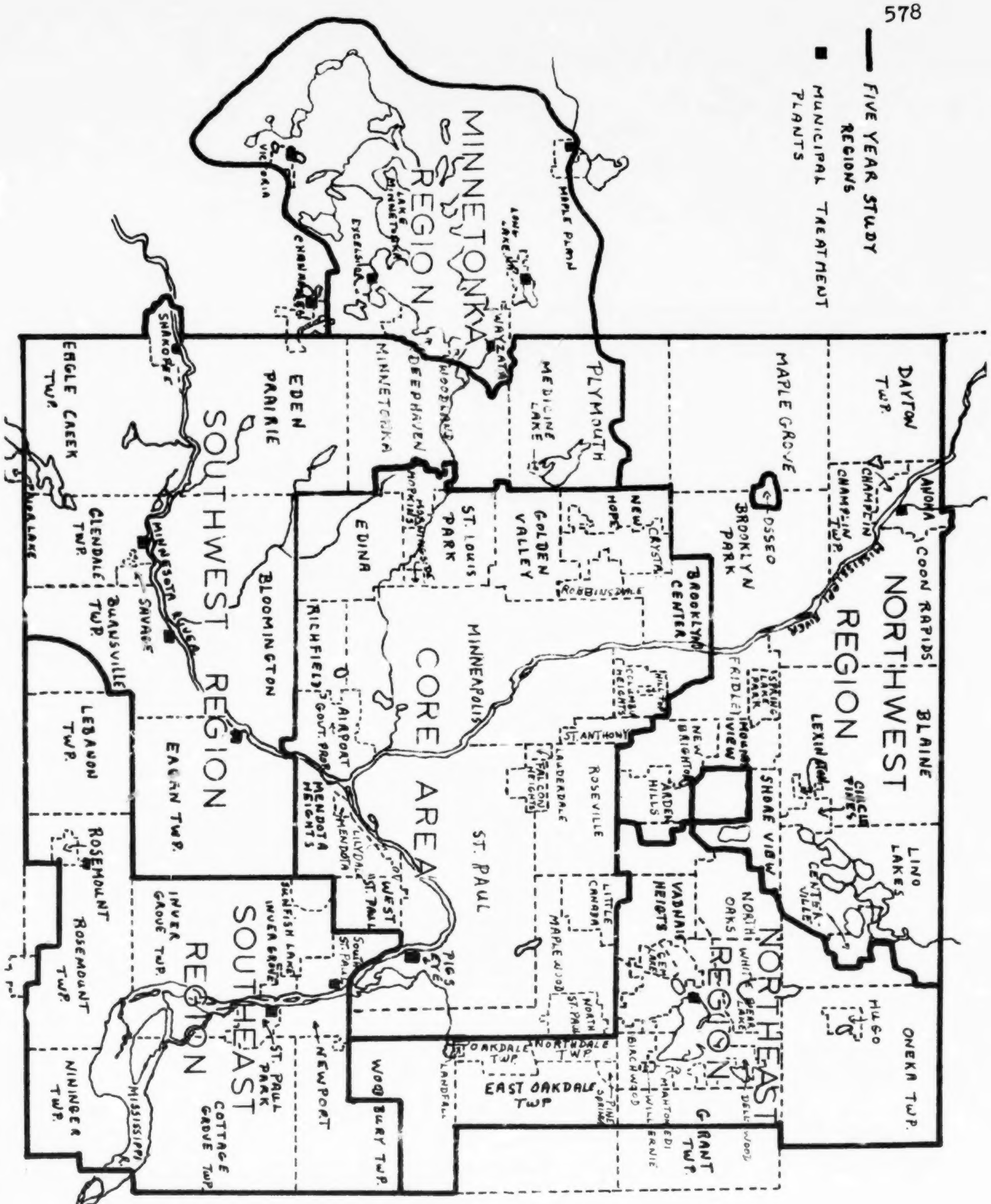
The Comprehensive Sewage Works Plan

In the 1963 Legislature a bill creating a metropolitan sanitary district was introduced again, this time with the backing of a governor's advisory committee on metropolitan problems. The Legislature, however, instead passed the 1963 Ashbach Act, sponsored by Representative Robert Ashbach of Arden Hills. The Act required the central cities to submit, through the Minneapolis-St. Paul Sanitary District, a Comprehensive Sewage Works Plan for the Metropolitan Area with a construction schedule, cost estimates and possible financing methods. The plan must be published by October 1964, and be reviewed and amended as necessary by the Minnesota Water Pollution Control Commission before presentation to the '65 Legislature.

The 1964 MSPSD plan, approved by the City Councils of Minneapolis and St. Paul, included the following provisions: (based on a design year of 2000)

1. A collection area of 900 square miles would be served by expanded Pig's Eye treatment facilities. The completed plant could handle 400 million gallons of sewage a day, with full secondary treatment.
2. The present contract system and governmental structure of MSPSD would continue. Suggestion was made, however, that contracting communities join to form regional districts for contracting purposes.
3. Construction costs would amount to some $145 million. Pig's Eye requiring


LIMITS of MSPSD SERVICE 1966
LIMITS of SERVICE 2000, 1965 AMENDED ASHBACH BILL
DAYTON TWP.
ANOKA
CHAMPLIN
CHAMPLIN TWP.
COON RAPIDS
BLAINE
LINO LAKES
ONEKA TWP.
HUGO
LEXINGTON
CENTERVILLE
CIRCLE PINES
MAPLE GROVE
OSSEO
BROOKLYN PARK
MISSISSIPPI RIVER
SPRING LAKE PARK
MOUNDS VIEW
SHORE VIEW
NORTH OAKS
WHITE BEAR LAKE
LINCOLN TWP.
DELLWOOD
FRIDLEY
BROOKLYN CENTER
NEW BRIGHTON
ARDEN HILLS
VADNAIS HEIGHTS
GEM LAKE
GRANT TWP.
MAHTOMEDI
WILLERNIE
BIRCHWOOD
PINE SPRINGS
NEW HOPE
CRYSTAL
ROBBINSDALE
HILLTOP
COLUMBIA HEIGHTS
ST. ANTHONY
PLYMOUTH
ROSEVILLE
LAUDERDALE
FALCON HEIGHTS
LITTLE CANADA
MAPLEWOOD
NORTH ST. PAUL
NORTH DALE TWP.
OAKDALE TWP.
EAST OAKDALE TWP.
GOLDEN VALLEY
ST. LOUIS PARK
MINNEAPOLIS
ST. PAUL
LANDFALL
WOODLAND
MINNETONKA
DEEPHAVEN
MORNINGSIDE
HOPKINS
WEST ST. PAUL
LILYDALE
MENDOTA
WOODBURY TWP.
EDINA
AIRPORT
RICHFIELD
GOVT. PROP.
MENDOTA HEIGHTS
SOUTH ST. PAUL
NEWPORT
EDEN PRAIRIE
SUNFISH LAKE
INVER GROVE
ST. PAUL PARK
BLOOMINGTON
EAGAN TWP.
INVERGROVE TWP.
COTTAGE GROVE TWP.
SHAKOPEE
MINNESOTA RIVER
SAVAGE
EAGLE CREEK TWP.
GLENDALE TWP.
BURNSVILLE TWP.
LEBANON TWP.
ROSEMOUNT
ROSEMOUNT TWP.
NININGER TWP.
PRIOR LAKE


FIVE YEAR STUDY REGIONS
MUNICIPAL TREATMENT PLANTS
MINNETONKA REGION
MAPLE PLAIN
LONG LAKE
VICTORIA
LAKE MINNETONKA
EXCELSIOR
CHANHASSEN
WAYZATA
SHAKOPEE
NORTHWEST REGION
CORE AREA
SOUTHWEST REGION
SOUTHEAST REGION
NORTHEAST REGION
DAYTON TWP.
MAPLE GROVE
PLYMOUTH
MEDICINE LAKE
MINNETONKA
DEEPHAVEN
WOODLAND
EDEN PRAIRIE
EAGLE CREEK TWP.
ANOKA
CHAMPLIN
CHAMPLIN TWP.
OSSEO
BROOKLYN PARK
NEW HOPE
CRYSTAL
GOLDEN VALLEY
ST. LOUIS PARK
HOPKINS
EDINA
GLENDALE TWP.
MINNESOTA RIVER
SAVAGE
BURNSVILLE TWP.
BLOOMINGTON
RICHFIELD
MINNEAPOLIS
ROBBINSDALE
BROOKLYN CENTER
COON RAPIDS
BLAINE
FRIDLEY
SPRING LAKE PARK
COLUMBIA HEIGHTS
HILLTOP
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NEW BRIGHTON
MOUNDS VIEW
LEXINGTON
CIRCLE PINES
LINO LAKES
CENTERVILLE
SHORE VIEW
ARDEN HILLS
ROSEVILLE
LAUDERDALE
FALCON HEIGHTS
ST. PAUL
LEBANON TWP.
EAGAN TWP.
AIRPORT
GOVT. PROP.
MENDOTA HEIGHTS
MENDOTA
LILYDALE
WEST ST. PAUL
SOUTH ST. PAUL
ROSEMOUNT
ROSEMOUNT TWP.
INVER GROVE TWP.
SUNFISH LAKE
INVER GROVE
PIGS EYE
LITTLE CANADA
MAPLEWOOD
NORTH OAKS
VADNAIS HEIGHTS
GEM LAKE
WHITE BEAR LAKE
HUGO
ONEKA TWP.
DELLWOOD
MAHTOMEDI
WILLERNIE
BIRCHWOOD
PINE SPRINGS
GRANT TWP.
NORTH ST. PAUL
OAKDALE TWP.
NORTHDALE TWP.
LANDFALL
EAST OAKDALE TWP.
WOODBURY TWP.
NEWPORT
ST. PAUL PARK
COTTAGE GROVE TWP.
NININGER TWP.
MISSISSIPPI

$18.2 million beyond the $22.8 million spent on the 1962-65 provision for secondary treatment and expansion.

4. For construction within a community, the community itself would determine the financial arrangements. Construction costs of common, or interceptor, sewers should be proportioned to each community based on use (flow), community property value, and on total developable acreage in the community. Costs and maintenance of Pig's Eye plant would be based on annual sewage flow.

It is important to note the domination of this plan by the single-plant concept. Two of the original six regions considered in the Five-Year Study were at this point eliminated from consideration because they didn't fit into the Pig's Eye network: the Southeast region including South St. Paul, with its own treatment plant, and the Lake Minnetonka region. One major reason for scrapping the regional plant alternatives suggested in '61 by the Five-Year Study lay in the publication in 1963 of stream standards for the Mississippi River from Anoka to Hastings by the Minnesota Water Pollution Control Commission. The first in a system of standards published by the Commission to conform with Federal interstate stream regulations, these standards state clearly that no major amounts of treated sewage effluent can be discharged into the river from Anoka to the St. Anthony Falls in Minneapolis -- which would presumably eliminate the possibility of constructing a regional plant for the north suburban area. Minnesota River standards published during the last year state that no major quantities of treated sewage effluent can be discharged into the Minnesota from Shakopee to the mouth of the river, which precludes the use of regional plants in most of the southwest suburban region. Suburban arguments and court cases taking issue with these standards are discussed on pages 17 and 18.

Early in the 1965 session of the State Legislature, a bill proposing a metropolitan sanitary district, called the '65 Ashbach Bill, was introduced in the House of Representatives. At the same time, the Water Pollution Control Commission made known its recommendations on the MSPSD plan to the legislature, in accord with the provisions of the '63 Ashbach Act. The Commission declared its agreement with the engineering plans of the District, but returned the finance and cost apportionment plan to the cities with the recommendation that a single, area-wide metropolitan sanitary district be proposed to the Legislature. The Commission further recommended that all capital costs of this district be financed by bonds to be repaid by an ad valorem tax on all real property within the enlarged district and that all operation and maintenance costs be met by a service charge to users of the system.

The core cities declined to change their position after hearing the WPCC recommendations, reiterating the original finance and apportionment proposals of the MSPSD plan as written into the House Ashbach Bill. Undoubtedly lack of time for further comprehensive study before the end of the session contributed heavily to the cities' "stand-pat" position.

In the closing days of the session, the Ashbach Bill was passed in the House. The bill was then sent to the Senate where it was radically amended by the Senate Civil Administration Committee. As proposed by Senator Wayne Popham of Minneapolis, and inspired by the results of a Citizens League "Report on Metropolitan Sewerage Needs" published in April, the amendments simplified the bill's financing and cost apportionment procedures. The final bill, however, did not pass the Senate. Since the specific provisions of that '65 amended Ashbach Bill will be considered among the major alternatives for sanitary district legislation in the '67 Legislature, they will be discussed in the following sections which contrast present district proposals on the basis of financing, administration, etc.

FINANCING A SANITARY DISTRICT

The financial framework of the proposed Metropolitan Sanitary District (MSD) has become a major stumbling block to the establishment of such a district.

When a MSD is created, money must be collected for:

1. Capital Costs - that is, the expense (principal and interest) of new interceptor sewers or the expense of disposal plant expansion.

   Also included here might be the expense necessary to purchase existing sewage facilities for use under the new MSD. For the most part, this would amount to "buying out" the present Minneapolis-St. Paul Sanitary District.

2. Year to Year Operational and Maintenance

Costs - e.g., maintenance of the lines, plant treatment costs, staff salaries.

General Methods of Financing

There are two basic methods of collection in use today, either of which, or a combination thereof, might serve as the financial backbone of a MSD.

A. Funds may be collected according to "use," i.e., the dry weather volume of sewage flow from any area as compared with the total volume of flow for the entire district. Other factors, such as strength of the sewage and flow characteristics, may be considered along with the volume when payment rates are determined. This rate amounts to a service charge.

This method of payment is equitable in that those who make the most use of the facilities also pay the greatest share. It may be considered unfair in that owners of vacant property may not share in payment for lines that enhance the value of their land. (This would depend on the local method of collection employed by a municipality to meet its use-charge obligation. If a property tax is used locally, vacant property owners would share in payment.) It is regressive in that families of low income pay a proportionately larger share of their income for service.

Public officials may prefer such a charge as it adds nothing to taxes, requires no popular vote, is free of debt limitations in bonding and brings revenue from tax-exempt property. A payment system based on sewage flow could call for close monitoring of industrial use. An appropriate charge could then be made to each industrial plant, based on the volume and strength of its effluent.

B. Funds may be provided by a general tax - specifically, an ad valorem property tax throughout the whole district.

Proponents of area-wide taxation say that community-wide benefits should be supported by general taxation. Since a property tax may be listed as an exemption on individual tax returns, state and Federal, there could be a considerable total savings in income tax to district homeowners. Critics of area-wide taxation point out that there is no distinction between user and non-user, public and individual benefits, and that there is no revenue from tax-exempt property.

Taxes are most frequently used throughout the country to meet costs of interceptor sewers and treatment plant construction.

Present Collection System of MSPSD (Minneapolis-St. Paul Sanitary District).

Yearly operational expenses are divided between the core cities (Minneapolis and St. Paul) on the basis of the percent of the total flow each has contributed to the Pig's Eye plant. Each core city, then, determines the percent of flow contributed to it by each of its contracting areas. Each contract area pays a service charge to the core city based on this usage. In addition, the contract charge rate reflects the cost of lines necessary to connect the outside area with the core city system. Costs to the core cities for expansion of Pig's Eye facilities are also reflected in the rates quoted contract areas.

Proposals for payment under a new MSD (Metropolitan Sanitary District).

A. Operation and Maintenance Costs. In all proposals studied, it is recommended that year-to-year operation costs be paid on the basis of current use. The Popham amended 1965 Ashbach Bill provides that "strength" as well as flow of sewage be considered in determination of any rate.

B. Capital Costs. This section deals with specific proposals and arguments for each of the two methods of collection as they pertain to Minneapolis, St. Paul and their suburbs. Following this, the question of the necessity of purchase by a new MSD of the existing sewer network is considered.

Since some proposals deal differently with the cost of interceptors as opposed to the cost of disposal plants, these differences are outlined in Table I.

	Current Proposals			
	Popham Amended Ashbach Bill 1965	Citizens League 1965	St. Paul Sewer Study 1966	WPCC 1965
Cost of:				
NEW INTERCEPTOR	Use in design year	Use in design year	Property tax	Property tax
DISPOSAL PLANT EXPANSION	Current use	Current use	Tax - may consider use	Tax
ACQUISITION OF INTERCEPTOR	Use in design year	Use in design year	Tax	Tax
ACQUISITION OF DISPOSAL PLANT	Current use	Current use	Tax - may consider use	Tax

TABLE I METHODS OF COLLECTION FOR CAPITAL COSTS

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1. "USE" BASIS. Both the Popham amended Ashbach Bill and the 1965 Citizens League "Report and Recommendations on Twin Cities Metropolitan Area Sewage Needs" propose collection on the basis of use either current or in the design year 2,000.

The distinction between "use in the design year" and "current use" is important. In the design of an interceptor, allowance in size must be made so that the interceptor will be adequate as suburban population and usage increase. To proportion the cost of these oversize interceptors by current use would be to charge the initial users unduly; an area not presently "hooked-up" would not pay its share for the oversize interceptor designed for its use at a later date.

Proponents of the use basis of collection contend that: a charge for new interceptors based on ultimate usage insures that each area will be paying its fair share on a common basis; the factor of distance from the treatment plant will not be considered so that outlying areas will not be unfairly penalized with the cost of the longer interceptors; the method of apportioning costs is direct and simple; since treatment plants are constructed in stages as use demands, a current use formula is reasonable, simple and advantageous from the standpoint of equity.

2. TAX BASIS. The St. Paul Sewer Study Committee has issued "Recommendations on Financing a Metropolitan Sewer District" (July 1966) in which they favor the issue of Type II bonds with annual principal and interest payments supplied by an ad valorem tax on all real property throughout the district, whether presently sewered or not. In a memorandum of March 15, 1965, the Water Pollution Control Commission had recommended that such a tax be levied to pay the capital costs of a MSD. Property will benefit from the construction of the facilities, hence the property tax. Type II bonds are repaid in increasing annual payments. The millage rate could remain fairly uniform (3.77 mills in 1970; 5.44 mills in 2,000) because property values are expected to increase to help meet the annually increasing cost of repayment.

Arguments for this method state that: since the impact of decisions by the district board will affect the entire area in a uniform manner (e.g., determination of the millage rate), the board will more likely act for the welfare of the "whole" at the least cost to the whole; no area will be charged more than another for service on the basis of distance from a treatment plant; the collection method is simple to calculate and required no additional collection agency; assuming that presently sewered areas will receive compensation from the purchase of their facilities by a MSD, no one area will feel the financial impact in excess (e.g., Minneapolis has a high realty value, but also stands to receive the lion's share of the credit which would result from the acquisition by a MSD of the existing facilities).

The lack of uniform property valuation procedures throughout the area may be a flaw in the tax basis approach. While it may be felt that this is a flaw in an assessment system that requires correction, it does detract from a payment plan based on a property tax.

Under either plan, the capital costs of a MSD would be "lumped" and the total cost would be divided among the participating areas on a common basis. If, on the other hand, each area paid back exactly the cost of service to it, some areas distant from a treatment plant would be heavily charged. (The cost of the longer and larger interceptors required would be a key factor.) If distance from a treatment plant is eliminated as a factor in fee determination by lumping capital costs and dividing them on an overall basis, then some areas (close to treatment plants) might object that they are paying more than necessary for their service alone. Proponents of the tax basis contend that a property tax would eliminate controversy that might arise along this line when use rates are established. In either case, is it unreasonable to expect that an area might pay for more than its service alone when it will benefit from the proper sewage disposal of an entire district in many ways (e.g. safety in water intake, scenic beauty)?

Acquisition of Existing Facilities.

The plans studied thus far assume the necessity of the purchase of existing facilities by the new MSD.

The cost or present value of the existing network would be figured as follows:

Present worth = Replacement cost - Depreciation.

Depreciation is based on a 40 year life for treatment plants and an 80 year life for interceptors.

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The question arose as to whether or not the cost of acquisition should include that part of the network which was originally paid for with Federal grants. WPCC felt that no Federal grant deduction on present value should be made; the Popham amended Ashbach Bill is written in agreement with this. The Citizens League felt that some portion, not to exceed half, of the Federal grants might be deducted. The St. Paul Sewer Study Committee would deduct all Federal grants from the original costs.

Not only the core cities, but their contracting areas would receive recompense for their part in ownership of existing facilities. The amount of money due any city or area might be used as a credit against its part of the costs of a new MSD and may be an important consideration.

There are some suburbanites who question the necessity of this "buying out" obligation. An urgent need for an areawide solution might be met in another manner. The new MSD might "purchase" existing facilities for, say, one dollar. Outstanding revenue bonds for plant improvements could be paid by use charges or by property taxes. Cost for interceptors would continue to be paid by assessment against the area benefited. Future developers would be required to put in necessary sewers and include the cost of this in the price of the buildings. User charges would be uniform. Industrial charges would be figured individually. Aside from saving many thousands of dollars for the total district, this plan would eliminate disputes over reimbursement formulas.

As a reference for this argument that existing facilities should be turned over without charge to a new sanitary district, Bloomington officials have mentioned that when school districts are formed, no payment is made by them for existing school buildings, etc., of their member communities. Another argument is that those persons who paid for the existing facilities are not the same people who would be reimbursed for their cost. Convincing the core cities that no reimbursement should be forthcoming could be difficult.

Some other mention might be made of specific area interests. St. Paul, with heavy industry and a large volume of sewage flow, might be expected to favor a property tax basis. Minneapolis, with high realty value and an advanced program of storm-sanitary sewer separation that decreases sewage volume, might well reject the tax basis. The following is taken from material from the St. Paul Sewer Study Committee Report as an illustration of the specific interests of various parties to the current controversy.

Present worth of future capital payments from
Minneapolis and St. Paul for a MSD financed
by either a property tax or a use formula.

	Credit Due from "buy-out"	Present Worth of Future Capital Payment	
		Property Tax basis	Use basis
St. Paul	$ 16.6 million	$ 7.6 million	$ 16. million
Minneapolis	31.4 million	7.9 million	1.2 million

Note: the credit due each of the core cities from the acquisition of existing facilities by a MSD is stated and the future capital payments cited are those that would be due after the credits have been made.

TABLE II

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ADMINISTRATION OF A METROPOLITAN DISTRICT

Wide division on financing has taken the spotlight in the last three years, obscuring controversy on the organization of a sanitary district administration. Solutions to this problem will also have to be found before passage of a bill can be assured. Proposals in this area are as diverse as financial plans and compromise will probably be needed to provide the best form of expert yet democratic control.

The Water Pollution Control Commission proposed in 1965 that representation on a district board be based on population and be adjusted periodically to provide for fluctuation of population. WPCC calculates that the growth in population from 1966 to 2000 will be such that the core cities' share of total district population will shift from the present 55 percent to 30 percent.

The Citizens League supports basing the membership of a district Board on population. More specifically, it has stated that it would be preferable if neither central cities nor suburban municipalities has an absolute voting majority on the governing board; that the size of the board should not be unduly large, preferably not in excess of eleven members; that voters should not elect members of the Sanitary District Board; that the governing bodies of the component municipalities should appoint the members of the board; that the suburban area be divided into separate appointing districts rather than appointing members at large; and that members of the board should not be employees of an elected governmental body.

The '65 amended Ashbach Bill proposes that the cities of Minneapolis and St. Paul each have three trustees on an initial eleven man board. Two members would be appointed from the state at large by the Governor. Each suburban region (Northwest, North and Southwest) should have one representative. Representatives would serve four-year terms. The suburban representatives would be elected at a convention of municipal representatives from the component communities within each region.

According to the Ashbach Bill, the governing board may increase over the years to a number not to exceed 15 in the following manner: whenever the population (based on Federal census) of a suburban unit increases by 135,000, the unit may elect an additional trustee. At the same time, when the combined suburban population equals or exceeds the combined core city population, the number of trustees from the state at large shall drop from 2 to 1. Thus the "final" board would consist of the following representatives: core cities, 6; at large, 1; suburbs, 8. If we expect, as the WPCC does, that the core cities' population will be 30 percent of the district in 2000, it is apparent that their representation (6/15 on the board will be disproportionately large.)

The following questions should be considered:

1. Should the representatives be elected or appointed?
2. Should there be weighted voting by the representatives on the board according to either population of a region or according to sewage effluent volume of the region?
3. What is the largest number of members for an effective but still representative board?
4. Is representation by one man of an enormous geographical area made up of up to 15 communities feasible, especially if the representative is a layman?
5. Should there be a combination of professional and laymen on the board, or exclusively either?
6. Are the boundaries of the proposed suburban regions (shown on map, p.567) consistent with watershed drainage areas? If the Sanitary District were to expand later into areas of water

conservation and zoning for beneficial water use, prior division according to natural drainage areas would make such activity more feasible and simple to administer.

7. How do recent court decisions indicating that a governmental unit with taxing power must be controlled by representatives closely reflecting the population of their constituencies affect plans for a Sanitary District board?

Pressure on the Legislature to set up a multi-purpose metropolitan district has been growing. Sewerage is only one of several services that might be handled on an area-wide basis. Planning, transit, air pollution control, and a zoo are among services most frequently mentioned.

Specific proposals for a Metropolitan Area Services Council have been put forth by the Minneapolis Chamber of Commerce. That organization has suggested that metropolitan representatives from seven counties (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington) should be elected from recently reapportioned senatorial districts. The Council would elect its own chairman and executive committee and would be empowered to hire a director and staff. The Council would be created by the

State Legislature, and its authority and responsibilities determined by the state.

Representative Ashbach has proposed for the State Legislature an alternative to the senatorial district method of representation. He has suggested that a twenty member board have responsibility for coordinating and planning metropolitan affairs. One official would be elected from seven counties, two each from Minneapolis and St. Paul and one from suburban Ramsey County. The remainder of the board would consist of one municipal official from each of the seven counties, and one School Board representative from the entire area.

Proponents of multi-district legislation are looking for a single solution to a number of metropolitan problems. Others feel it is more practical to deal with each problem on an individual basis and let coordination come later. The special needs of a sewage program would probably still require formation of a separate sanitary district board under a multi-district administration.

GEOGRAPHICAL AREA OF A METROPOLITAN SANITARY DISTRICT

There are four large areas which geographically would seem to fall in a Metropolitan District plan, but whose inclusion is, in fact, in doubt at present.

Two of these areas, the North Suburban Sanitary Sewer District and the Southwest communities of Bloomington, Eagan Township and Burnsville, are included in the limits of service as written in the amended 1965 Ashbach Bill and are currently contracting areas of MSPSD. Both prefer to decline admission into a district that proposes to transport and treat all sewage at one treatment plant (Pig's Eye). The "Regional versus Single Plant" controversy has been hotly debated and the issues closely studied. A separate section of the paper deals with this controversy.

Two other areas, the Lake Minnetonka region (west of Deephaven) and the Southeast region including South St. Paul have been eliminated from consideration since 1964, although they were originally included in the Five Year Study for a Metropolitan Sanitary District. As the single plant concept has dominated the engineering plans for a district, only the areas feasibly served by the Pig's Eye plant have been included in these plans.

Both the Lake Minnetonka region and the Southeast region present serious pollution problems. There are now six treatment plants sending effluent into Lake Minnetonka, located in Excelsior, Wayzata, Orono, Mound, Langdon, Maple Plain and Long Lake. As these communities continue to grow, it is inconceivable that they can all continue to discharge effluent into the lake without harmful effect on its water quality. Algae growth fed by chemical nutrients remaining in sewage effluent is already a local nuisance. Unless some more economical method for removal of objectionable chemicals in sewage can be developed, the WPCC suggests that communities on the south side of the lake may have to discharge their effluent south to the Minnesota River near Chaska (above Shakopee) and the communities on the west and north may have to discharge effluent west to the Crow River.

When the first sanitary district legislation was passed in 1933, South St. Paul was eliminated from the plan presented to the Legislature because it created too large a financing problem. It then had a population of only 10,000 but had sewage equivalent to a population of 250,000. It still has slaughtering and meat packing plants, and to them have been added oil refineries and chemical plants. It still has combined storm-sanitary sewers which now bring into its treatment plant each day raw sewage equivalent to that of a population of 818,000; approximately 50 percent of the "pollutional load" of the sewage is removed at the South St. Paul plant.

Recent developments such as the permission given by the Water Pollution Control Commission to Burnsville, within the metropolitan district planning area, to expand its temporary plant discharging into the Minnesota River seem to weaken the single plant concept for presentation in the '67 Legislature. It would seem that if the district is to control any plants other than Pig's Eye, then it should also control the plants of the Southeast and Lake Minnetonka regions. South St. Paul has suggested its interest in joining a metropolitan sanitary district, with the proviso that it be given representation on the basis of its volume of sewage effluent rather than on population, or at least be given one representative on the district board.

This year 37 communities in Minnesota requested 7 million dollars in Federal aid for municipal treatment plant construction. The Water Pollution Control Commission states that a maximum of $1.9 million will be granted to the state, and, since it assigns priority ratings to the requests, states that the funds will be divided among a probable 10 municipalities. South St. Paul has applied for funds but has never received priority status. The advantage of accumulating as many municipalities as possible in one request is obvious: not only does the Federal Government grant a 10 percent bonus for construction that it part of a comprehensive metropolitan plan, but it has recently passed legislation eliminating percentage ceilings on grants for large cities under such a plan.

South St. Paul with its large number of industries and Lake Minnetonka with its great recreational value for metropolitan dwellers seem particularly valuable to the state as a whole. Many supporters of a metropolitan district say the advantage of this approach is that it can average out the problems of the communities within it, whether they be Lake Minnetonka's great distance from a reasonable sewage outfall or South St. Paul's high volume of industrial effluent. There seems to be no reason why a metropolitan district could not oversee a network of regional plants as well as a single one.

No sanitary district proposal has included the entire 7 county metropolitan area described by the proponents of a multi-purpose metropolitan district (see p.567). Perhaps consideration should be given to equating the boundaries of a sanitary district with those of the area represented on a metropolitan services council.

Mrs. Wm. Whiting

REGIONAL VS. SINGLE SANITARY DISTRICT TREATMENT PLANTS

One of the most controversial questions involved in a study of the sanitary sewer district problem is the single plant concept versus that of regional treatment plants. The two factors most discussed in a single versus a regional plan are cost of construction and maintenance and quality of effluent. There is a dispute of facts on these two points by the parties involved.

The WPCC and the Citizens League both favor the single plant plan and conclude it would be cheaper in the long run. The North Suburban Sanitary Sewer District favors the regional plan and estimates it would cost less. The Bloomington group (which is made up of the city of Bloomington, the village of Burnsville and Eagan Township) also favors the regional approach and feels it would be cheaper.

According to the Citizens League report, "in order to provide for projected year 2000 sewerage needs for the northwestern and southwestern regions, construction costs totalling $100.3 million will be required under a system of four upstream treatment plants. The total construction costs of providing the necessary sewerage works for these two regions under the single downstream plant system would be $116.9 million. Thus the excess construction costs under a single downstream plant system would total $16.6 million." (Citizens League Report, p. 6, Item A)

All of the parties concerned seem to agree that initial construction costs under the regional plan would be cheaper. Where the cost of operation and maintenance is considered a conflict appears between the NSSSD, the Bloomington group and the figures given in the Citizens League report.

The Citizens League indicates that "cumulative operation and maintenance costs to the year 2000 under the upstream plant system will total $49.3 million. Comparable operation and maintenance costs to the year 2000 under the single downstream plant would total $31.6 million. The net saving under the single downstream plant system would amount to $17.7 million. Therefore the excess construction costs of $16.6 million under the single downstream plant system are more than fully offset by the $17.7 million savings in operation and maintenance costs to the year 2000. After the year 2000, these savings in costs of operation and maintenance under the single downstream plant system would widen the cost differential in favor of the single downstream plant system." (Citizens League Report, pp. 6 and 7, Items B and D)

The NSSSD agreed "there is a difference in cost of operation and maintenance, but it is nowhere near the magnitude claimed. . ." (NSSSD Brief, p. 49) The NSSSD contends that "the primary difference in the cost of operation and maintenance is the result of providing only 75% treatment by means of a high rate activated sludge plant, (Pig's Eye), as opposed to the 90-95% treatment in the conventional activated sludge plant proposed by the NSSSD." (NSSSD Brief, p. 46) In direct opposition to this statement, the Citizens League states that "we have revised upward the costs of a downstream plant system to reflect 90% treatment at the Pig's Eye plant to be attained by 1980" and have therefore based cost comparisons on equal quality factors. (Citizens League Report, p. 7)

The Bloomington group also states that they plan "a much higher degree of treatment (95%) than that proposed by the Minneapolis-St. Paul Sanitary District Plant at Pig's Eye (75%)." (Comments by Bloomington Director of Public Works, Lower Minnesota River Sewerage Plan Summary, Nov. 22, 1965, p. 2) The Bloomington group contends that the time schedule does not correspond with the sewerage needs of the region involved and that the southwestern regions share of cost based on capacity would be more, under the single plan, than if they had their own plant.

Concerning water pollution control, both the proposed NSSSD plant and the plans for a plant from the Bloomington group have given evidence that their effluent will be "as clean and pure" (NSSSD Brief, p. 53) as the standards adopted by the WPCC require. Both groups also pointed out that with the high degree of treatment given at their proposed plants, the effluent put into the river would be of better quality than the river water as it now exists.

The only WPCC standard that these two groups could not meet is the prohibition of any discharge of effluent (treated or untreated) into the Mississippi or the Minnesota Rivers in regions where they proposed plants. The Citizens League report indicated that they felt the quality standards could be maintained most of the time by regional plants. They were concerned, however, over meeting the standards during periods of low flow. They also expressed concern over the risk to Minneapolis drinking water if the NSSSD plant were built one mile above the Minneapolis water intake plant as proposed.

The NSSSD is presently waiting for a decision from the Anoka County Court of Appeals on the validity of the WPCC prohibition standard. The NSSSD has not been considering membership in a metropolitan system and probably will not, until a decision is made by the court. It is likely that if the Court of Appeals rules against it, the NSSSD will take its case to the Minnesota Supreme Court.

The Bloomington group has included in its study the possibility of membership in a metropolitan system. The League of Women Voters of Bloomington has posed an interesting question on this point: "Does a metropolitan solution have to include a monolithic single plant concept? Does construction of a regional treatment plant destroy the concept of a metropolitan district?"

ADDENDUM ON STATE AIDS

Although not directly relevant to the subject of a metropolitan sanitary district, the possibility that state loans or grants may aid the financing of new plants, interceptors, etc. in a metropolitan district should be considered.

The U. S. Advisory Commission on

Intergovernmental Relations recommends that states enact legislation to provide grants for capital development to supplement Federal aid and to provide incentives in the form of low cost loans, bonuses or matching grants for regional treatment plant construction. Direct state grants are given for planning in four states, for construction in eleven states and for construction loan funds in nine states.

In its proposals for the 1967 Legislature, the Water Pollution Control Commission has advised that the state consider a program of matching construction grants to supplement or extend Federal grants. It has also suggested that the state consider establishing a revolving loan fund to be used for financing at a low interest rate engineering reports, construction plan and specifications.

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MR. STEIN: Are there any questions or comments?

MR. POSTON: I would like to say that at every one of these conferences that I have attended or participated in, the League of Women Voters has come through with a profound statement, and has shown by the statement the extent to which they have studied the problem.

Recently the League of Women Voters came out with a new book.

MRS. WHITING: That's right.

MR. POSTON: And they are to be commended for the influence that they are exerting on this overall program.

MRS. WHITING: Thank you. We appreciate the opportunity for citizens to be heard like this.

MR. STEIN: I know this may be some shock to the engineers, but I don't think we can say, as you do indicate, they are all to blame for this.

You know, if you look at the nine people up here, only four of the nine, I think, are engineers, and the rest of us have to bear the blame for any inaction. This is not one professional group.

MRS. WHITING: Thank you.

MR. STEIN: Thank you.

Mr. Smith?

MR. SMITH: The next statement will be by Clear

Air, Clear Water - Unlimited.

STATEMENT OF JOHN PEGORS, VICE PRESIDENT, CLEAR AIR, CLEAR WATER - UNLIMITED

MR. PEGORS: Chairman Stein and Conferees:

Clear Air, Clear Water - Unlimited is a group of citizens living on the rivers under study at this time.

My name is John Pegors. I am Vice President of the organization. Our statement is as follows:

Clear Air, Clear Water - Unlimited appreciates the opportunity to submit a statement of praise for the Upper Mississippi River Project Study and to make further recommendations for limiting pollution on the upper Mississippi and major tributaries. It is the feeling of our organization that the remedial recommendations are not as severe as idealists might suggest. But we accept the general spirit of the recommendations in the interest of need for immediate progress.

Clear Air, Clear Water - Unlimited has a membership of more than 500 citizens living along or near the upper Mississippi and the Minneapolis and St. Croix Rivers. The organization has been concerned since its formation eleven years ago that the pollution problems prevailing in the Minnesota and Mississippi Rivers were being compounded wit proper checks to safeguard the health and rights of the public. We also have been and continue to be concerned about the potential for pollution posed by construction of major electric generating plants, both planned and in progress, along the three rivers. Therefore, we believe the effectiveness of the Upper Mississippi River Project could be enhanced with the addition of the following recommendations:

1. Temperatures of effluents discharged into streams be kept at 83 degrees Fahrenheit or lower. The purpose of this recommendation is to avoid the potential for disruption of aquatic life.

2. All waters be monitored for the effects of pesticides as a protection against improper use and potential harm to human health.

3. Both atmosphere and waters be monitored for radiation levels, along with a total prohibition on the disposal of radioactive wastes in the upper Mississippi and its tributaries. This recommendation is directed at all users of radioactive material since there are no known safe levels of radioactive pollution, and since such pollution is known to have carcinogenic and genetic effects.

4. The two following sections of rivers be upgraded to the extent that they are suitable habitat for Group I fish:

A. Mississippi River from the Minneapolis-St. Paul Sanitary District main treatment plant to Lock and Dam No. 2.

B. Minnesota River from Chaska to the confluence of the Mississippi River.

These recommendations are made in view of the great recreational potential and important health considerations involving these rivers which flow at the very doorstep of a metropolitan population center.

Clear Air, Clear Water - Unlimited is a great deal less than satisfied with the prospect that the remedial program timetable stretches over three years. Our organization believes that the public interest has already been set aside too long. But in the interest of immediate progress, we will accept the recommended timetable, which we feel to be more than ample for the necessary construction.

In their deliberations following the conference, the conferees are requested to accept the recommendations of the Upper Mississippi River Project with the modifications and additions noted above.

Respectfully Submitted

Board of Directors

Clear Air, Clear Water - Unlimited

Rural Route 1

South St. Paul, Minnesota

Thank you, Mr. Chairman, for the opportunity.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: Mr. Smith?

MR. SMITH: The next statement is from the Minnesota Conservation Federation.

Is there someone here to read that?

(No response.)

MR. SMITH: Mr. Thimsen?

STATEMENT OF MINNESOTA CONSERVATION FEDERATION, AS READ BY DONALD J. THIMSEN,

MINNESOTA DEPARTMENT OF HEALTH

MR. THIMSEN: Statement by Minnesota Conservation Federation Pollution Committee.

For the Conference in the Matter of Pollution of the Interstate and Intrastate Waters of the Upper Mississippi River and its Tributaries (Minnesota-Wisconsin), February 28, 1967 - 9:30 a.m., Leamington Hotel, Minneapolis.

The Minnesota Conservation Federation appreciates the opportunity to study the summary of the Federal recommendations for pollution abatement for the upper Mississippi River and its tributaries. As our organization has been

Minn. Conservation Federation, D. J. Thimsen

extremely interested in pollution problems for many years, at our annual Assembly in September 1966, the following resolution was passed unanimously by delegates from each of our affiliated organizations.

> WHEREAS, pure air and pure water are vital to health, recreation and survival of the American way of life and are currently of national concern and,
>
> WHEREAS, we are informed that the present laws are adequate if properly enforced to correct any pollution problems pertaining to water in our State and,
>
> WHEREAS, we have been informed that approximately 400 communities have no disposal treatment plants and many other existing plants are not operating efficiently and that a number are operating only eight hours per day and,
>
> WHEREAS, we are informed that the Pollution Commission has not been granted a sufficient budget in order to engage the services of sufficient qualified personnel to properly supervise the installation of disposal plants and to properly check the operation of these plants periodically,
>
> WHEREAS, the Minnesota Conservation Federation has

for a number of years supported strong pollution laws and as a result of this support should assume the responsibility of bringing to the public attention pollution problems which exist throughout the State and should assist in any way possible by reporting these pollution problems,

NOW THEREFORE BE IT RESOLVED that the Minnesota State Legislature be requested to appropriate sufficient funds for the use of the Pollution Commission in order that it can engage the services of the necessary qualified personnel to meet the requirements of the present Minnesota State laws and Federal laws.

NOW THEREFORE BE IT RESOLVED that the Minnesota Conservation Federation establish a pollution committee within the Minnesota Conservation Federation membership, said committee to be appointed by the president, and be it further resolved that each member organization appoint a pollution committee to work in conjunction with the State committee by surveying their surrounding area to determine existing and potential pollution problems and to report their findings in detail to the State committee. The State committee will review the facts and in turn, if they deem it advisable, will report the results to the Pollution Commission.

RESOLUTION FROM THE NATIONAL WILDLIFE FEDERATION

Unanimously passed by delegates from 49 States in annual meeting, March 1966. The National Wildlife Federation continues to emphasize its belief that contamination of the air, water, and land resources, both from unwise disposal of wastes and from the deliberate application of chemicals, is the most pressing problem of the time. In view of demands from the expanding human population, it is urgent that massive attacks must be launched by Federal, State, and local governmental agencies to control water and air pollution and set standards of quality which will allow public waters to be used for all beneficial purposes, including fish and wildlife and recreational pursuits rather than reserving them for waste assimilation. Industries must be encouraged to regard pollution control as a normal cost of production and pricing. Accelerated and expanded research must be pursued toward the goal of developing methods of pest control less harmful than the persistent chemical poisons which present hazards to large numbers of beneficial creatures.

In our opinion, after studying this comprehensive report, it makes one ask, "How could this pollution monstrosity occur, here in Minnesota in this day and age, of 24-hour a day news coverage, besides all of the well-meaning organizations so vitally interested in all types of pollution?"

It sorely points up the following facts:

1. Lack of budget for the Pollution Commission.
2. Lack of press relations.
3. Failure of, responsibility of, on the part of our elected and appointed officials to get this information to the public -- as guaranteed by our Federal Constitution amendments -- freedom of the press.
4. The glaring fact that the Minneapolis-St. Paul Sanitary District and South St. Paul are the prime culprits of pollution. Approximately 98 percent of the entire area.
5. Immediate steps could be taken by the

authorities to correct this problem by advancing the states of sewage treatment.

We urge the conferees to give serious consideration to the upgrading immediately of the entire Mississippi River Basin from Federal recommendations Pages 26 through 28.

Under Item B, Page 28, we recommend maintenance of habitat for Group I fish for the entire Basin.

Under Item C, we recommend whole body contact for the entire Basin.

Under Item 10, Page 30, we recommend storm and sanitary sewers to be completed within 24 months. Studies to continue for means of continual upgrading of all standards.

Prepared by the Pollution Committee

(Signed) R. C. Johnson

R. C. Johnson, Chairman.

Minn. Conservation Federation, D. J. Thimsen

Mr. Chairman, I would like to make one comment on one of the "whereases."

> "Whereas, we have been informed that approximately 400 communities have no disposal treatment plants and many other existing plants are not operating efficiently, and that a number are operating only eight hours per day,"

there is reference made here to 400 communities, and I am sure we do not have 400 communities without treatment.

MR. STEIN: They are not here to answer this, are they?

MR. THIMSEN: I beg your pardon?

MR. STEIN: They are not here to answer this?

MR. THIMSEN: No.

MR. STEIN: Are there any further comments or questions?

MR. SMITH: I have the same comment Mr. Thimsen had. I am certain we don't have 400 communities without treatment.

MR. STEIN: I have a question as to the constitutional interpretation, but I won't raise that here.

MR. POSTON: You are talking about freedom of speech?

MR. STEIN: Speech shall be guaranteed, but that is of no point here.

Mr. Smith?

MR. SMITH: The next group I have is the Izaak Walton League.

Is Mr. Sullivan here?

(No response.)

MR. SMITH: The next statement is from the Beaverbrook Sportsmen, Inc.

STATEMENT OF BEAVERBROOK SPORTSMEN, INC., AS READ BY DONALD J. THIMSEN, MINNESOTA DEPARTMENT OF HEALTH

MR. THIMSEN: This statement is in the form of a letter dated February 21, 1967, from James Pettman, Chairman of the Pollution Committee, Beaverbrook Sportsmen, Inc. It is addressed to Mr. Lyle H. Smith.

Dear Sir:

I received an invitation from Robert N. Barr, M.D., to attend the Feb. 28th conference at the Leamington Hotel. I cannot attend and give a full report on our committee activities, as we are still in the process of self-education and fact-finding in our area. We do not have police powers to enter and check hidden sources of pollution, but we are endowed with our natural senses -- sight-hearing-touchsmell-speech-plus self-preservation and curiosity.

Under curiosity, we would like answers to the following questions:

1. When the Mississippi flooded the Pig's Eye dump, how pure was the water that reentered the river?

2. The supply of snapping turtles in Shingle Creek (here in Brooklyn Center & North Mpls.) is quite adequate, but where are the minnows and crayfish going?

3. When creosote enters a water table, does it stop at city or village limits?

4. When industrial solvents are dumped into the earth, do they eventually enter the nearest river by way of convenient storm sewers?

5. When coke and asphalt plants eject their goodies, is it possible that rain and fog will wash them into the river (minus what we absorb)?

6. Hard detergents are wonderful for washing the first time. Does the next user appreciate having them come through his water tap?

7. Why are potent poisons sold to be used by amateur bug slayers? A pound is good, so a ton must be wonderful.

8. Do all doctors have the time, skill and laboratory facilities to diagnose incipient poisoning from

our wonderful pesticides, insecticides, etc.?

9. Is it true that vegetarians have half as much residual poisons in their systems? Watch the carrots, boys! They are reputed to be the most efficient collector of poisons among the vegetables.

10. Are we to establish a wonderful new world of plenty and be only half alive to enjoy it?

11. Will a cure for cancer catch up with all the carcinogens?

12. Does the fact that areas are competing for industry affect the enforcement of restrictions on these same industries?

13. When a fertilizer plant emits its wastes, do the plants, shrubs and trees in the vicinity take a new lease on life?

14. Our municipal and village laws on pollution are quite imposing. Do we need money and well equipped, trained personnel to enforce them?

15. Is it possible that individuals and corporations could possibly stall with the threat of a $100 fine over their heads?

16. Who will bell the cat? The village, the county, the State or the Federal Government? Could they possibly unite?

In closing, let us join together and send our best to friends and neighbors downstream.

Sincerely,
/s/ James Pettman
Chairman Pollution Committee
Beaverbrook Sportsmen, Inc.

P. S. An aroused public can best make its wishes shown at the polls.

(Laughter and applause.)

MR. STEIN: Thank you for reading this.

You know, I am going to take this home. Where he talks about our natural senses and listed them and listed the sense of speech as one, I've got to show that to my wife (Laughter).

Thank you.

Are there any comments or questions?

DR. JELATIS: Mr. Chairman, as one of the downstream recipients of the pests, I say I appreciate this, as all of the concern of the Natural History Society and the League of Women Voters, Clear Air, Clear Water, and the other people who are concerned enough to speak here.

I hope that they speak equally vocally before the Legislature and support some activities, and support additional funds that the people would have to enforce the regulations.

MR. STEIN: Thank you.

Mr. Smith?

MR. SMITH: The next statement is from the Fort Snelling State Park Association, Mr. Savage.

STATEMENT OF THOMAS C. SAVAGE, VICE PRESIDENT, FORT SNELLING STATE PARK ASSOCIATION

MR. SAVAGE: I am Thomas Savage, the Vice President of the Fort Snelling State Park Association, a citizens' group.

At the Federal Conference in the matter of the Pollution of the Upper Mississippi River and Tributaries in Minneapolis on February 28 and 29, 1967.

Fort Snelling State Park, as established by the 1961 session of the Minnesota Legislature, comprises 2,450 acres of land on both sides of the Minnesota River, extending some four miles upriver from its mouth and including land on the south side of the Mississippi River upriver from the junction of the two watercourses. The total amount of frontage on the Minnesota River -- including both sides -- including Pike Island -- and including both the present channel and the new channel currently being established by the U. S. Corps of Engineers -- is 14-3/4 miles; the frontage on the Mississippi River is just over 2 miles. When the land acquisition and the development of this park is completed, it will be one of the major recreational areas of the Twin Cities. Included among the recreational activities of the park will be such sports as pleasure boating and canoeing, fishing, the observation of waterfowl and wildlife, and the esthetic enjoyment of the rivers by hikers, picnickers and others.

Another much larger State park -- Carver State Park -- is being proposed at the current session of the Legislature -- to consist of some 18,000 acres located on the Minnesota River both above and below the town of Jordan. To enable Fort Snelling State Park and Carver State Park, if and when established, to offer the greatest number of water-related activities to both our residents and to the many out-of State tourists who are certain to use their facilities, it is essential that the water quality of the lower stretch of the Minnesota River and the metropolitan section of the Mississippi be improved substantially. The directors of the Fort Snelling State Park Association sincerely hope that the conferees give serious consideration to the anticipated heavy recreational use of these sections of the rivers when their final recommendations are adopted.

Thank you.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, thank you very much.

Mr. Smith?

MR. SMITH: The next is the statement by the Pollution Control Unit of the Social Concern Committee, First Unitarian Society of Minneapolis.

STATEMENT OF POLLUTION CONTROL UNIT OF THE SOCIAL CONCERN COMMITTEE, FIRST UNITARIAN SOCIETY OF MINNEAPOLIS, AS READ BY GARY GINNER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER: Statement by Pollution-Control Unit of the Social Concern Committee, First Unitarian Society of Minneapolis.

Our purpose here is to urge taking the strongest possible measures to clean up the 270 miles of rivers covered by the study presented today.

We all contribute to pollution, although nobody favors it. We don't really want to be a dirty society, but simply can't stop the outpouring of waste that fouls our world. So we welcome today's conference as a step toward deciding on a course that will restore and guard our nearby rivers system. Let us be sure we do enough for that purpose.

The cost will be high -- in money, self-discipline, and strenuous persuasion.

Municipalities are big offenders, and they do not spend money lightly. Some businesses have been appallingly irresponsible in their use of our rivers to dump massive amounts of damaging waste; and they still persist and will persist until we can force them to halt.

Each of us, in one way or another, as taxpayer or stockholder, has a small immediate selfish interest in non-action in this effort at reversal. Each of us has a tremendous enlightened self-interest in doing as much as is needed to make these rivers clean and beautiful again.

Keith Emery, Chairman
Pollution Control Subcommittee
First Unitarian Society of Minneapolis,
Minnesota.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, Mr. Smith?

MR. SMITH: The next statement is from the

Community Wild Life Club, St. Cloud, G. Ginner

Community Wild Life Club, Inc., of St. Cloud.

STATEMENT OF THE COMMUNITY WILD LIFE CLUB, INC., ST. CLOUD, MINNESOTA, AS READ BY GARY GINNER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER: This is dated February 25, 1967, and reads:

Statement for Federal hearing, February 28, 1967, by Community Wild Life Club, Inc., St. Cloud, Minnesota (700 members).

1. We have had inquiries from Twin City groups concerning the potential use of the Mississippi River from above Anoka to Brainerd as a recreational area. We, in St. Cloud, realize the increasing population pressures and uses that will be placed on water-based activities. We ask that the Minnesota River from Mankato to its mouth be used for whole body contact recreational use.

2. The Masonic Home on the old Shakopee Road is mentioned in your report as polluting the Minnesota River. This home has a resident population of 200 people. **No where** in this report do we find mention of pollution from private homes along the rivers both in and out of municipalities. Forty homes, with an average of three to five members per

Community Wild Life Club, St. Cloud, G. Ginner family, could produce an effluent equal to the Masonic Home. Our survey of the Mississippi River area from Anoka to Brainerd shows several hundred homes, many of which are discharging untreated sewage into the water. (We have compiled logs on three such areas.)

In view of your General Recommendations #1, Page 27, and #3, Page 30, we believe an additional recommendation is needed to cover this source of pollution.

/s/ Don Andrews
Gerald Henningsgaard
Co-chairmen, Water Pollution Committe
St. Cloud Community Wildlife Club
St. Cloud, Minnesota

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, thank you very much.

Mr. Smith?

MR. SMITH: The next statement is from the Sierra Club, Great Lakes Chapter, North Star Section, Minnesota.

STATEMENT OF THE SIERRA CLUB, GREAT LAKES CHAPTER, NORTH STAR (MINNESOTA) SECTION, AS READ BY DONALD J. THIMSEN, MINNESOTA DEPARTMENT OF HEALTH

Sierra Club, by D. J. Thimsen

MR. THIMSEN: This is a letter dated February 27, 1967, addressed to Mr. Murray Stein, Federal Water Pollution Control Commission, Department of the Interior, Washington, D. C.

Dear Sir:

We of the North Star Section of the Sierra Club wish that the following statement be entered into the record of the hearing conference in the matter of pollution of the interstate and intrastate waters of the upper Mississippi River and its tributaries (Minnesota and Wisconsin):

Through the 19th Century, Americans found abundant clean air and water. Regardless of conditions they may have earlier been accustomed to in Europe, they undoubtedly came to expect as a right the abundance of all natural resources of the United States. In this overwhelming abundance, the thought of conservation occurred to no one but a very few visionaries. Likewise, with our many and ample rivers, disposal of wastes seemed no problem. Each man dumped his little bit into the river and saw it vanish.

With increased population, this condition of abundance disappeared. Today, an objective look can only show we do not have unlimited natural resources. We do not have unlimited clean air; polluted air is killing human beings now. We do not have unlimited clean water; cities over the entire Nation are forced to great pains and expense to find water that is not laden with others' sewage and refuse.

However, men's attitudes have not changed. The ingrained habits of the past are still with us, and Americans are still conditioned to the concept of bountifulness. With our population still increasing, it is obvious to all that these habits must change eventually. We of the Sierra Club believe that the time for change is now. We further believe that an overwhelming majority of the citizens would, on reflection, agree with us.

The oil dumpings in the Minnesota River that precipitated these hearings were dramatic examples of grossly inexcusable accidents. However, no less damaging, and far more insidious, is the day-by-day influx of pollutants from practically all municipalities and industries. It is this pollution that must be ended. Europeans are now beginning to recognize this, as witness the organization in the Ruhr Basin of Germany. Although the political methods used along the Ruhr would be unacceptable in this country, they do illustrate that rivers in industrial regions can be kept clean, at costs that are not excessive.

The recommendations of the upper Mississippi study represent another solution. Implementation of these recommendations will help to turn the tide of increasing pollution in this region. It will, at reasonable cost to all concerned, serve as a start on the road to the clean rivers that we believe we citizens of the United States still have a right to expect. Therefore, the Sierra Club strongly encourages acceptance of these recommendations.

Sincerely,

Carl W. Ehrman, Conservation Chairman
400 Maple Avenue, N.E.
Minneapolis, Minnesota 55432

Executive Committee, North Star Section:

- Mrs. Ann Hooke, Chairman
- Mrs. Marilyn Anderson
- Mr. Gerald R. Ault
- Mr. Donald R. Caster
- Mr. Walter N. Clauson
- Mr. Carl W. Ehrman
- Mr. Chauncey Greene
- Mr. Robert D. O'Hara

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: Thank you very much.

Mr. Smith?

MR. SMITH: I have one more statement from the Northwest Airlines Sportsmen Association.

STATEMENT OF THE NORTHWEST AIRLINES SPORTSMEN ASSOCIATION, AS READ BY DONALD J. THIMSEN, MINNESOTA DEPARTMENT OF HEALTH

MR. THIMSEN: This is a statement submitted by Willard Zell, Conservation Officer, Northwest Airlines Sportsmen Association, and also co-signed by Gene Hedegaard, Secretary, 10318 York Lane, Minneapolis, Minnesota.

Gentlemen:

We are grateful for the opportunity to have been able to review the summary of this Twin Cities Upper Mississippi River Project Study and being able to attend this conference.

As conservation officer for the Northwest Airlines Sportsmen's Association, I have been requested by our members to make the following statement for them.

Our present membership totals 96 members, of which a majority are airline employees in various capacities with the airlines. The purpose of our group is defined in our by-laws, which read, "The purpose of this non-profit organization shall be to encourage citizens of our community to actively participate in the organization of all field sports in their community and to strive for a united effort to further by educational and implementive programs, the conservation of our natural and recreational resources."

We are affiliated with the Minnesota Conservation Federation and the National Wildlife Federation. As affiliates of these organizations, we actively participate in the formation of its policies by submitting and voting on resolutions which guide their activities.

We do not appear before this conference with any graphs, charts, maps or bundles of data, nor do we make any claims of great engineering, scientific or biological knowledge.

We are here before you as a citizens group with a sincere interest in one of our most precious resources -- water.

It has been in the past and it will be in the future the policy of this group to work for and support any movement which will assure us that this resource will be maintained to the highest degree.

Why, for instance, should we accept a recommendation which according to this study report would provide maintenance of habitat for game fish only in specific segments of these rivers, such as the Minnesota River from Mankato to Chaska. What about from Chaska to the mouth of the Minnesota at the Fort Snelling State Park? Why not adequate habitat for game fish in all segments? We wonder how fish would be able to, in migration, be able to distinguish a demarcation line.

Why not whole body contact recreational activities for all segments? Certainly this is possible, and what esthetic enjoyment would there be to view a river and to know that below the surface runs water in which only decay and filth can survive?

Gentlemen, we therefore respectfully request that the water quality standards for the entire study area be such that they will support the portions of the water uses as defined in Items B through M on Page 28 of the Study Summary.

If this requires our municipalities and institutions to have secondary treatment plus sewage disposal plants, or our industry to have adequate waste treatment facilities, or power plants to have proper cooling equipment, or any other requirement that may be necessary, let's work toward that goal before these pollution problems turn into chaos.

In conclusion, we would like to say we believe these things can be achieved and are sure that all citizens would support them, if only they would be so informed of the facts.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, Mr. Smith?

MR. SMITH: I have a statement by the Minnesota Chapter of the American Society of Sanitary Engineering.

STATEMENT OF ARTHUR A. EBERT, PRESIDENT, MINNESOTA CHAPTER, AMERICAN SOCIETY OF SANITARY ENGINEERING

MR. EBERT: Mr. Stein and Conferees:

I am the President of the Minnesota Chapter of the American Society of Sanitary Engineering.

The Minnesota Chapter, American Society of Sanitary Engineering, appreciates the opportunity to analyze the Summary and Pollution Abatement Recommendations for the Upper Mississippi River and major tributaries. We are also appreciative of the invitation to submit a statement concerning the recommendations.

In our judgment, the study of the 270 miles of the upper Mississippi River and major tributaries is a highly satisfactory completion of the duties assigned the study group and reflects credit upon its Director, Dr. Albert Printz, Jr., and his colleagues. The study was conducted with a high degree of objectivity and desire to reflect a true picture of the conditions in the 270 miles of river included in the study project.

As interested, concerned residents of the areas involved in the Upper Mississippi River Project Study, the Minnesota Chapter, American Society of Sanitary Engineering, believes the effectiveness of the study project could be increased markedly with no added hardship to persons, firms, and communities. We therefore urge adoption of the following additions to the recommendations:

A. Due to the high rates of fertilization in the rivers included in the project study, we respectfully request the conferees to give serious consideration to inclusion of high-rate phosphate and nitrate removal treatment requirements for all waters discharged to these rivers.

B. We earnestly recommend the inclusion by the conferees of an effective, high quality mandatory training plan and certification program for all sewage treatment plant personnel employed in the plants discharging wastes to the rivers included in the study project.

C. In order to alleviate thermal pollution in the project study river basins, we request the inclusion of discharge water cooling facilities of sufficient capacity to maintain condenser wastes at temperatures not to exceed

83 degrees Fahrenheit at all times.

D. We urge the Conferees to give serious consideration to the highly desirable up-grading of three sections of the study project rivers.

1. Mississippi River: Minneapolis-St. Paul Sanitary District to Lock and Dam Number 2 to be included as a habitat for Group 1 fish (page 28, section b, in Recommendations).
2. Mississippi River: Minnesota River to Lock and Dam Number 2 to be included as a whole body contact recreational activity area (page 28, section c, in Recommendations).
3. Minnesota River: Mankato to confluence of Mississippi River to be included as a whole body contact recreational activity area (page 28, section c, in Recommendations).

E. We respectfully request the Conferees to advance the timetable of the Remedial Program to 24 months instead of the 36 months contained in the Recommendations.

In their deliberations following the Conference, the distinguished Conferees are respectfully requested to include the preceding recommendations as a means of expediting the enhancement of the ecological systems in the river basins under study.

Thank you.

MR. STEIN: Thank you, sir.

You know, since this is part of an educational approach, just let me make two points --

MR. EBERT: Pardon me?

MR. STEIN: Just let me make two points.

The first is that several people have come up with this 83 degree temperature, and the Minneapolis-St. Paul Sanitary District indicated what temperature, 86? I am not sure, but this is something you want to check, whether the water naturally doesn't go above 83 at times in these rivers even if you put nothing in it.

The other point is that I am as firm as the next one on as rapid a time schedule as possible.

There have been several people who have criticized this three-year proposal. Generally speaking, it has been our experience that it takes as long to design the plant and get the financing arranged and do all that work as it does to construct. In other words, if it takes a year to build, it takes a year to get your design and paper work. It doesn't pay to build unless you are doing it right.

Now, I say this just advisedly. If we were running a dictatorship here; if we had all the power and all the money in the world; if right now we pressed the button to get this thing going and threw in all the resources and we didn't care about the costs; if we could do this all now and had a crash program like that, as if we were going to move in developing the atomic bomb or something; if we did it in two years, we would be lucky.

We know we do not have that here, so the question, I think, is to come up with a realistic time schedule.

Again, I am not trying to change anybody's mind. In my opinion the setting of too rigid a time schedule is even worse than setting one which is too lenient. Here is what happens: When you set too rigid a time schedule that can't be met and the time passes, you are beyond it, and then no one pays attention to the order.

The point is you have to try to set a realistic time schedule.

As one of the people here, I ask you to go back in your organization and examine this time schedule, because I do think that the scientific people here have made, as far as I can see, as tight a recommendation as could reasonably be held.

Maybe this is a little unrealistic, and to be unrealistic we have lost the battle.

Are there any further questions or comments?

(No response.)

MR. STEIN: Thank you very much.

Mr. Smith?

MR. SMITH: Are there any other civic organizations or sportsmen's clubs that I have missed?

(No response.)

MR. SMITH: Apparently this is all.

MR. STEIN: We will turn to Wisconsin.

MR. WISNIEWSKI: Mr. Chairman, you have a couple of letters there from Wisconsin people, I believe.

MR. STEIN: Yes. Did you want to put these in the record?

MR. WISNIEWSKI: Yes.

I would like to read into the record a letter from Mr. Jack Nelson, Supervisor of Ellsworth, Wisconsin, addressed to Mr. Murray Stein, Water Pollution Control Conference, Minneapolis, Minnesota:

"Dear Mr. Stein:

"The Pierce County Board of Supervisors accept and endorse the recommendations of the Federal Water Pollution Control Administration on the Twin Cities-Upper Mississippi River Project with the provision that the standards be maintained and improved as advancing technology permits.

"Very truly yours,

Jack Nelson, supervisor

/s/ Jack Nelson"

I have another letter addressed to Mr. Stein from Bay City, Wisconsin, which reads:

"The Village of Bay City and the Wisconsin Conservation Congress accept and endorse the recommendations of the Federal Water Pollution Control Administration on the Twin Cities-Upper Mississippi River Project with the provision that the standards be maintained and improved as advancing technology permits.

"Very truly yours,

/s/ Lloyd V. Spriggle"

I would like to have these included in the record.

MR. STEIN: Thank you.

MR. WISNIEWSKI: Are there any other people from Wisconsin communities here who would like to enter a statement?

(No response.)

MR. WISNIEWSKI: If not, are there any from Wisconsin organizations or industries who would like to enter a statement?

(No response.)

MR. WISNIEWSKI: There being none, we have no further comment.

Mr. Odegard would like to make a comment.

MR. STEIN: Yes.

MR. ODEGARD: I would just like to make one little correction for the record.

Technically I am apparently designated as a conferee from Wisconsin. I am from the Minnesota-Wisconsin Boundary Area Commission.

There was no way under the existing law for me to be appointed by the Federal Government or by the two States, so Wisconsin took the opportunity, or gave me the opportunity by designating me as a Wisconsin member, but I want it understood that we are acting in our regular capacity as an interstate compact position interested in air pollution and water pollution and regional development for the whole boundary area. We are truly interstate and have about the same interest as the Federal Government in this case.

DR. HARGRAVES: Mr. Chairman, I, as the Chairman of the Minnesota delegation, want to correct my error, because I told Mr. Odegard this would be one of the early things that I would say, but it slipped away from me, so it will perhaps be the last thing I will say. However, we are happy to have Mr. Odegard among the conferees representing Wisconsin as well as Minnesota.

MR. STEIN: Mr. Smith?

MR. SMITH: Mr. Stein, I have one more statement. This is from the Robbinsdale Sportsmens Club, Inc.

STATEMENT OF THE ROBBINSDALE SPORTSMENS CLUB, INC., AS READ BY GARY GINNER, MINNESOTA DEPARTMENT OF HEALTH

MR. GINNER: This is dated February 28, 1967.

To Conference in the Matter of Pollution of Upper Mississippi River and its Major Tributaries
Federal Water Pollution Control Administration
U. S. Department of Interior

Mr. Chairman and Members of the Conference:

The Robbinsdale Sportsmens Club, with members from many communities in Hennepin County, wishes to thank this conference for the invitation to present a statement at this important hearing.

Our club's 26-year history in conservation activities has kept us aware of the constantly degrading quality levels of our river systems. We are not technically qualified to present facts and statistics about water standards, but we feel we can offer some comments from the layman's point of view.

Ideally, we would suggest our rivers be controlled

Robbinsdale Sportsmens Club, G. Ginner

sufficiently to provide water usable along their entire length for (1) human consumption (after treatment) and (2) recreational activities including swimming and sport fishing.

The assumption on the part of water users that they are free to abuse the quality of our water resources without penalty must be declared wrong. Penalties for such abuses should be established immediately to provide, in effect, a "water abuse tax" of sufficient magnitude to make it desirable and an economic necessity for water abusers to discontinue their offensive practices.

The Recommendations of the Federal Water Pollution Control Administration released in January 1967 are the minimum acceptable standards to be established. Upgrading of these recommendations shall be made as quickly as possible as time and knowledge of this major problem permit.

Respectfully submitted
/s/ Lenny Hockert
President.

MR. STEIN: Thank you.

Are there any comments or questions?

(No response.)

MR. STEIN: If not, Mr. Smith, does that conclude the presentation by Minnesota?

MR. SMITH: Yes, that concludes it.

MR. STEIN: Is there any more from Wisconsin?

MR. WISNIEWSKI: No.

MR. STEIN: As you know, we changed the order to accommodate the people who came, and Mr. Poston, I believe, still has some Federal representatives.

Mr. Poston?

MR. POSTON: We had several Federal agencies who were here yesterday to give statements.

I believe Mr. Ryder of the Corps of Engineers is here to read a statement of Colonel Hesse, the District Engineer of the Corps of Engineers in Minneapolis.

Is Mr. Ryder here?

(No response.)

MR. POSTON: He was here. Because he isn't here, I will ask Mr. Sayers to read this statement.

STATEMENT OF THE CORPS OF ENGINEERS, ST. PAUL, MINNESOTA, AS READ BY WILLIAM T. SAYERS, DEPUTY PROJECT DIRECTOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, TWIN CITIES PROJECT, MINNEAPOLIS, MINNESOTA

MR. SAYERS: Statement of Corps of Engineers, St. Paul, Minnesota, for Conference on Pollution of the Upper Mississippi River, Minneapolis, Minnesota, 28 February 1967.

Corps of Engineers, Wm. T. Sayers

1. The Twin Cities Upper Mississippi River Project, Federal Water Pollution Control Administration in a report on pollution abatement recommendations for the upper Mississippi River and its major tributaries recommended that:

a. Present plans for improvement or replacement of inadequately sized sanitary treatment facilities at the locks and dams on the Mississippi River in this district be continued.

b. At stream flows of 7,000 cubic feet per second (cfs) or less (as measured at the St. Paul gage), as much water as possible be passed over bulkheads before the Tainter gates at Lock and Dam No. 2 at Hastings, Minnesota, Mile 815.2. At flows of 3,000 cfs or less, the equivalent of the inflow to Pool No. 2 should be passed over the bulkheads.

c. A planned schedule of analyses be continued on effluent from the waste treatment facilities of the Dredge WM. A. THOMPSON so as to insure adequate removals prior to overboard discharge of effluent.

2. At the present time, the sanitary treatment facilities of only one of the thirteen locks and dams on the Mississippi River in this district (Lock and Dam No. 9 near Lynxville, Wisconsin, Mile 647.9) is considered inadequate;

and improvement and/or replacement of these facilities are scheduled in 1967. Of the remaining twelve locks and dams, two sites (the control station at Upper St. Anthony Falls locks at Minneapolis, Mile 853.7, and the control station and the two dwellings at Lock and Dam No. 10, Guttenberg, Iowa, Mile 615.1) are connected to the adjacent city-owned systems. The remaining ten locks and dams are equipped with sanitary treatment facilities consisting of septic tanks, cesspools, and dry wells. Such facilities are considered to be operating adequately in treating sanitary wastes and in discharging inert effluents into the river.

3. Operation of Lock and Dam No. 2 as outlined in Paragraph 1a. above has been carried on since the winter of 1964. This program has not created any operational problems, although the bulkheads were lost during the 1965 flood and were later replaced. At the present time, storage of the bulkheads on the dam's bridge limits to some degree the working area at the site.

4. Analysis of the effluent from the sanitary facilities of the dredge WM. A. THOMPSON while in operation is being continued to insure adequate treatment and removal of pollutants prior to discharge in the river. Installation of sanitary sewage treatment facilities on barges 719 and 761, and on the Derrickboat 767 is in progress and should be

completed on about 1 May 1967.

5. In summary, the installations and floating plant under the direction of the Corps of Engineers, St. Paul District, on the Mississippi River, do not contribute to the pollution of the waterway. This office will continue to monitor our installations and floating plant to insure efficient operation of the sanitary facilities and will cooperate fully in any pollution abatement program.

MR. STEIN: Thank you.

I wonder if you fellows know what kind of installation the Corps is putting on their boats? I don't know if you can answer that.

MR. POSTON: I think he can.

MR. SAYERS: The dredge WM. A. THOMPSON has extended aeration treatment facilities on it. They were placed in operation, to my knowledge, I believe, early last year, and they have been operating all summer. Also, to my knowledge they have been operating satisfactorily.

MR. POSTON: This doesn't include chlorination too?

MR. SAYERS: I am not certain.

MR. STEIN: Well, how about those other two barges?

MR. SAYERS: I am not familiar with the operation of the barges.

MR. STEIN: All right. Thank you.

MR. POSTON: Are you ready for the next?

MR. STEIN: Yes.

MR. POSTON: Mr. Scheible of the U. S. Army Fifth Army Headquarters.

STATEMENT OF ROBERT E. SCHEIBLE, CHIEF OF SANITARY AND ELECTRICAL ENGINEERING, DEPARTMENT OF THE ARMY, HEADQUARTERS, FIFTH UNITED STATES ARMY

MR. SCHEIBLE: Mr. Chairman, Conferees, Ladies and Gentlemen:

For the record, I am Robert E. Scheible. I am Chief of Sanitary and Electrical Engineering for Headquarters, Fifth United States Army.

I will first read a letter from Headquarters, Fifth U.S. Army, signed by Captain J. M. Roberts, Assistant Adjutant General, for the Army Commander:

DEPARTMENT OF THE ARMY
HEADQUARTERS FIFTH UNITED STATES ARMY
1660 East Hyde Park Boulevard
Chicago, Illinois 60615

In Reply Refer to: 27 February 1967
ALFGD-EU

Conferees of the Conference on
Pollution of the Interstate Waters
of the Upper Mississippi River
Leamington Hotel
10th Street South & 3d Avenue South
Minneapolis, Minnesota 55401

Gentlemen:

The inclosed statement covers this headquarters activities in regard to pollution abatement and control in the Upper Mississippi River Basin and in regard to actions recommended by the Federal Water Pollution Control Administration affecting various U. S. Army NIKE site facilities in this basin.

Subject statement is submitted pursuant to the U.S. Department of the Interior Notice to Federal Agencies on the reconvening of the conference and pursuant to the Summary and Pollution Abatement Recommendations referenced in this notice.

Sincerely,
(Signed) J. M. Roberts, Captain, AGC
Asst. Adjutant General

1 Incl
Statement

The statement is as follows:

Headquarters Fifth United States Army welcomes the opportunity to participate in this conference covering the very important matter of water pollution abatement in the Upper Mississippi River Basin. In this regard, this headquarters will continue cooperating to the fullest extent possible with the Federal Water Pollution Control Administration as well as the Minnesota and Wisconsin Water Pollution Control Regulatory authorities in implementing all needed actions. Directives covering this cooperation have been established by the Department of Defense and the Department of the Army and include Department of Defense Directive 5100.50, Army Regulation 420-46, "Water & Sewage," and Army Regulation 11-21, "Environmental Pollution Control."

The basic water pollution control policy of this headquarters requires that operation and maintenance of all sewage treatment facilities under its command be at the highest possible level. Performance at a level lower than that reasonably attainable from the existing facilities is unacceptable to this headquarters. The facilities will, of course, be operated to meet all published performance standards of the Federal Water Pollution Control Administration and the Minnesota and Wisconsin Water Pollution Control Regulatory authorities.

R. E. Scheible

The primary prerequisite for meeting these performance levels and standards, since adequate treatment facilities already exist, is well trained operators. To further improve the skill levels of each site man, this headquarters is planning to supplement the training made available by the Minnesota and Wisconsin regulatory authorities by conducting its own short course, specifically orientated to operation, maintenance and laboratory testing of the NIKE site facilities. The net result should be a further improvement in the already generally satisfactory level of performance.

In regard to the general recommendations, this headquarters basically concurs with their intent; however, they imply that this headquarters is not now in compliance with these recommendations. This is incorrect as follows:

a. Recommendation No. 1 states that a minimum of one hour per day must be devoted to sewage treatment, implying that this is not now being accomplished. Each site man already spends about five hours per week in operation and maintenance. Since some laboratory testing is being accomplished off-site at local municipalities, the time spent in this regard must be added to that spent on-site.

The time spent on both of these items approximates the recommended one hour per day. This headquarters, however, feels that the imposition of an arbitrarily determined amount of time is not justified. The criteria for determining whether adequate time is being devoted to sewage treatment should be whether, in fact, operation and maintenance is at a satisfactory or unsatisfactory level. During the recent inspection 27-28 October 1966 by a representative of the Federal Water Pollution Control Administration and a representative of this headquarters, it was observed that, with minor exceptions, operation and maintenance were at a satisfactory level. It is therefore concluded that adequate time is being devoted to operation and maintenance and recommendations in regard to these areas should be limited to deficiencies that, in fact, exist. This headquarters will continue to devote the necessary time to operation and maintenance, and laboratory testing, whether this time requirement is more or less than one hour per day.

b. Recommendation No. 2 states that all

facilities should be operated to achieve their designed removal efficiencies. This implies that all treatment facilities were not achieving their designed removal efficiencies when, in fact, only one of the four treatment facilities, namely, MS-90, Bethel, Minnesota, was not performing up to its designed ability. Changes in operational methods, primarily continuous recirculation, have been made to improve treatment performance at this site. Recommendations to accomplish what is already being accomplished appear inappropriate and, again, recommendations should be limited to specific problems where they exist.

c. Recommendation No. 3 requires certain minimal laboratory testing. No indication is made of the fact that limited laboratory testing was being accomplished at all sites as follows:

(1) Imhoff cone settling tests are being generally accomplished at the recommended frequency;

(2) BOD tests on a two-to-four-time per month basis are being performed in lieu of relative stability. This headquarters feels that the

relative stability test is of little value and would prefer the considerably more useful BOD test on a lesser frequency. It has already been indicated that some laboratory testing is being performed by local municipalities due to limited testing facilities at the NIKE sites. This approach is, however, extremely costly and each site is therefore planning to purchase one automatic BOD analyzer, which will permit even more frequent analysis for BOD on both effluent and influent;

(3) chlorination tests would, of course, only apply to those sites practicing chlorination. In view of the extremely low flow from these sites, usually less than 0.01 MGD, twice weekly tests for chlorine residual would appear appropriate;

(4) activated sludge testing is not applicable to these sites since only one package-type activated sludge plant is provided, since this plant is so lightly loaded that a biota cannot be sustained and, therefore, laboratory testing for sludge index and dissolved oxygen would not affect plant performance or cause any operational changes to be made, and since the polishing lagoon

following this package plant is of such capacity that overflow into a natural water course does not occur.

In regard to specific recommendation No. 1 for MS-40, Farmington, Minnesota, which requests termination of the present discharge to the roadside ditch with concurrent extension of the outfall sewer, the Corps of Engineers, during the early stages of construction of this site, obtained a permit from the Dakota County Highway Department to install this sewer on county property. Since the permit application included drawings showing the affected area, all of which was within the road right-of-way, and since no approval was requested for sewer construction within the right-of-way beyond the road intersection, it is concluded that subject permit included approval to discharge into the roadside ditch. Also, paragraph 6.3 of the Minnesota State Department of Health Standards for Sewage Treatment permits such discharges when appropriate. Since, during the inspection indicated above, both participants made a careful, detailed inspection of this ditch, and since no evidence of any pollution, or even of a treated sewage effluent, was observed, and since the functional use of this ditch was obviously not being impaired, it is concluded that this discharge is appropriate. Although a permit has already been issued, an after-the-fact approval of the Minnesota State Department of Health will be requested to ensure completeness of the record. In view of this, the suggested time table on Page 34 of the recommendations is not applicable.

In regard to the specific recommendations for chlorination at MS-40 and MS-90, it is questionable if disinfection will be required to meet standard 3c shown on Page 34 of the recommendations. Standard 3d would not apply since the receiving streams are not used for whole body contact activities. Currently the treatment facilities are operating at about 10 to 20 percent of the original design capacity. This necessitates substantial recirculation rates to properly maintain facilities. This, of course, produces an exceptionally high degree of treatment, with corresponding coliform reductions, and it appears possible to meet standard 3c without chlorination. Testing will be instituted to verify this position. Should this position be incorrect, existing chlorination facilities at MS-40 and MS-90 will be activated and operated in compliance with standard 3c.

SUMMARY

1. This headquarters will continue to devote the necessary time to sewage treatment activities.

2. This headquarters will continue to operate the facilities to achieve their designed removal efficiencies.

3. With the approval of the conferees, laboratory testing as indicated above will continue to be routinely accomplished.

4. Formal, after-the-fact approval of the MS-40 discharge to the roadside ditch will be requested.

5. Chlorination requirements will be evaluated by the laboratory control and chlorination facilities at MS-40 and MS-90 will be activated if necessary.

- - -

Thank you.

MR. STEIN: Thank you.

Are there any comments or questions?

MR. POSTON: I might say thank you, Mr. Scheible, and I am very happy to note that the facilities, of course, will be operated to meet all the public performance standards of the Federal Water Pollution Control Administration and the Minnesota and Wisconsin Water Pollution Control regulatory authorities.

I am sure that the conferees will meet here and will come up with summaries, which, if they are in unison, will be published by the Secretary, and a copy will be submitted to you.

MR. SCHEIBLE: And we will meet those.

MR. POSTON: Yes, sir. Thank you.

MR. STEIN: Are there any further statements, Mr. Poston?

MR. POSTON: Are there any other Federal agencies here who have a statement?

(No response.)

MR. POSTON: I know that the Atomic Energy Commission was here and the Housing and Urban Development Department were represented here yesterday. I don't know whether they are here and wish to make a statement at this time or not.

If not, this is all of the Federal presentation.

MR. STEIN: Are there any more from the States?

(No response.)

MR. STEIN: If not, we have been consulting with the conferees. I think this has been a very productive session in getting all the information and reviews on the table. The conferees are going to give very careful consideration to this material.

Now, in view of commitments of the conferees, particularly some of the Wisconsin conferees, it was decided that the conferees would recess, and we will reconvene in executive session in Minneapolis on March 20th of this year. It probably will be at nine o'clock, unless the conferees subsequently decide on some other time.

At that time the participation in the conference will be done by the conferees and their staffs, but we are not going to go into hiding, because we do business where everyone can see us.

In addition to that, I think it has become evident that if we are going to get a real meaningful report, we have to give our knowledge to certain technical problems between now and then. Therefore, I think we would like to have a technical committee representing the States and the Federal Government.

This technical committee probably should be headed by Mr. Wisniewski, Mr. Printz and Mr. Smith and their staffs for the three groups represented at this table.

There are at least three problems that I have identified which should be resolved:

1. We have to come up with a uniform decision on how we would decide BOD rates are going to be determined, whether this 7-day every 10 years, or 1-day every 15 years, but let's try to resolve that.

I think we did this with Minnesota and came to a resolution on the Red River of the North. I really do think we have to and should try to work that out, and if the conferees feel they will need any data and computer time or hydrologists to work on that, possibly within the next few days you should decide that, so that when the technical committee meets you will have this data.

Also, I believe it would be helpful if we could iron out this notion of dump sanitary land fills on flood banks. It would be very helpful if the technical staff did come up with a recommendation that we can all live with on that. I don't think there is any difference in what we want to do.

The third point may be a matter of formulation, but this is a question of coming up with an approach that the conferees can consider on secondary treatment. Referring to this notion that both States took issue with and that I had a little problem with of that 80 percent removal and secondary treatment, I think if we can get a formulation of that which will be acceptable for the conferees to proceed on, it will be helpful.

There may be other technical problems which we may want to identify now or later, but hopefully we should be ready to go on those.

I think we will have to use the recommendations of all the conferees and the other people who made recommendations and suggestions for modification and consider those when we meet on March 20th.

Are there any further statements or questions?

(No response.)

MR. STEIN: Does anyone in the audience feel that he wants to say something before we recess the conference?

MR. BADALICH: Mr. Stein, would it be permissible to submit supplemental data to the Commission?

MR. STEIN: Let me say this: I have given this to one party. We are going to keep the record open for a week.

Off the record.

(Discussion off the record.)

MR. STEIN: Are there any further comments?

MR. POSTON: Mr. Stein, it is clear that any of the conferees who have items that they want considered by the technical committee will submit them to their particular representatives?

MR. STEIN: Yes. I hope this is so. This is not so extremely complicated as to cause a limitation on the technical committee, but these are three of the areas that I have identified.

As a matter of fact, the more there is for the technical committee to resolve, the nicer the executive session is going to be, and the sooner we will be able to get out to enjoy the pleasures of Minneapolis.

However, I would wish you take your mandate as a broad mandate, and anything you fellows can agree on we would be delighted to have.

Are there any other comments or questions?

A VOICE: Mr. Chairman, after the executive session will there be another public session?

MR. STEIN: We are not going to exclude the public from the executive session. We are not going to call on you.

There is nothing that we are going to do here that we don't do in the open. We have discussed this with the representatives of both States. We are all public agencies doing a public job in a public manner, and we are delighted to have you sit in and see how good or how bad we are, and look at us.

Are there any other comments or statements?

(No response.)

MR. STEIN: If not, thank you all for coming.

At the end of the public session, of course, we will make an announcement.

We stand recessed until March 20th.

(Whereupon, at 5:05 p.m., an adjournment was taken until Monday, March 20, 1967.)

(The following statements were submitted after the close of the hearing for inclusion in the record:

ST. CROIX RIVER ASSOCIATION

Rivercrest Road
Route 5
Stillwater, Minnesota 55082
March 3, 1967

Mr. Murray Stein, Chairman
Federal Water Pollution Control Administration
U. S. Department of the Interior
633 Indiana Avenue, N.W.
Washington, D. C.

Dear Mr. Stein:

Your recent "Report on Pollution of the Upper Mississippi River and Major Tributaries" has revealed the unfortunate extent of the degradation of the major riverways of our region.

The St. Croix River Association, with a membership of almost 150 people living for the most part in the St. Croix River valley or who live in the Twin City Metropolitan area but are interested in the River, has during the more than 50 years of its existence traditionally concerned itself with both the esthetic values and the water quality of the St. Croix River.

We have, however, become increasingly aware that the fate of the Mississippi and the Minnesota Rivers will be the fate of the St. Croix unless the most strenuous efforts are made to reverse the trends of the present use of our rivers as municipal and industrial dumping grounds for heat and waste. We are vitally concerned that the St. Croix River does not go through the horrible cycle of death and efforts at rebirth that the Mississippi River has.

The extensive technical data in the report identifying the kinds of and location of the sources of pollution provide a critical first-step in remedial action to eventually correct this problem. I am certain that your emphasis on joint action by municipalities, the state and the Federal government will receive strong support from our members who have long felt that the region has the resources to deal with the problem but lacked the will to organize a suitable program of abatement.

Your report and insistence for action under the law merits the gratitude and support of the entire region.

Yours very truly,

/s/ C. R. Humphries

C. R. Humphries

President

St. Croix River Association

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Statement of the Bureau of Commercial Fisheries, Department of the Interior, as part of record of the FWPCA Conference in the Matter of Pollution of the Interstate Waters of the Upper Mississippi River, Minneapolis, Minnesota, February 28, 1967

The safeguarding and perpetuation of the fishery resources of the Nation is a major responsibility of the U. S. Bureau of Commercial Fisheries (Fish and Wildlife Act of 1936). Any practice or series of events which threatens fisheries directly or militates against the well-being of natural stocks even in the most subtle manner is of primary and overriding concern to us. We have pointed out repeatedly that changes are occurring in the Nation's aquatic environment -- changes that seriously threaten fishery resources and tend to deface the value and utility of this promised land. No single group or individual is responsible for these changes. It is the small addition contributed by one, compounded with those contributed by others that results in creeping ruination of a stream, a lake, or a major river.

The commercial fishery of the Upper Mississippi River represents the largest discrete fishery on the inland waters of the United States outside of the Great Lakes. Landings of catfish, buffalo fish, sheepshead and carp, averaging almost 12 million pounds annually, supply a large portion of the demand for fresh water fishery products in the Upper Mississippi Basin and surrounding areas. Over 1600 fishermen are dependent on the River for at least a portion of their income.

The effects of poor water quality on the commercial fishery is uniquely critical. The more obvious signs of gross degradation of the aquatic environment including deficiencies in dissolved oxygen, major changes in bottom fauna and the like, are clearly detrimental to the fishery through direct reductions of fish populations. A more subtle aspect involves the tainting of fish flesh and the development of unpleasant taste and odor qualities due to the presence of such pollutants as oil wastes and phenolic compounds. This qualitative aspect is particularly important to an industry whose products are distributed directly to the consumer from the point of harvest. Also, fish products from the River are competing on the market with other fish and meat substitutes where the consistent maintenance of quality is a significant factor. The tainting of flesh frequently renders River fish unacceptable to the consumer and there is little the fisherman can do to correct the situation.

As a result the commercial fishery below St. Louis has been severely curtailed due primarily to the qualitative effects of water pollution. Basically, adequate fish populations are present to support the fishery. A similar situation has been pointed out by the Minnesota Conservation Department at the 1964 Pollution Conference on the Upper Mississippi River held at St. Paul. Frequent off-flavor qualities of the catch from Spring Lake in Pool 2 have reduced selling prices and forced buyers to place fish in holding ponds until these flavors have disappeared. A further movement downstream of these conditions would have serious effects on the fishery of Lake Pepin. This pool is one of the most important on the River, exceeding all others in average annual landings, and representing 10 to 15 percent of the commercial catch on the River.

The Bureau of Commercial Fisheries is now completing an extensive study of the Upper Mississippi Basin fishery through its participation in the Corps of Engineers Upper Mississippi Basin Comprehensive Survey. This study indicates the central importance of the Mississippi River in the over-all future development of the Basin's fishery, particularly in supplying regional demand for catfish. We therefore are extremely interested in the future course of water quality on the River and its tributaries. This interest has been implemented in our recent comments on the proposed water quality standards of the State of Minnesota, which we have submitted to FWPCA. We stand ready to continue further active participation in any and all future attempts to maintain and improve the water quality in the Upper Mississippi Basin.)